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Appointment of the Director

DOCTOR George F. Zook, United States Commissioner of Education, was elected Director of the American Council on Education at the annual meeting last May.

Doctor Zook received his Bachelor's and Master's Degrees at the University of Kansas and his Doctor's degree at Cornell University. After an experience as Instructor and Professor of European History at Kansas, Cornell and Pennsylvania State, he joined the staff of the Bureau of Education in 1920, as Chief of the Division of Higher Education. During his five years of service in this post he established a reputation as a careful, scholarly investigator and as a source of sound counsel. For the next eight years, 1925-1933, he was President of the University of Akron, where to the background of historical scholarship and mastery of the problems of higher education he added a growing interest in and understanding of the entire range of education. He participated in many surveys. He served on committees dealing with many of the newer aspects of education, such as adult education, education by radio and motion pictures and religious education. He made a distinct and important contribution to the work of the National Advisory Committee on Education. Upon the advice of leaders in all branches of public education, the National Administration in 1933 practically drafted Doctor Zook as Commissioner of Education. One year later, when the American Council made its search for a director who would combine a scholarly background, experience and interest in higher education, and an understanding of the whole range of education, public and private, cultural and vocational, in school and out, it was only natural that our choice should have fallen upon Doctor Zook. We are highly to be congratulated that he is to be our Director.

At the same meeting in May, Doctor Charles R. Mann was elected Director-Emeritus. It is indeed fortunate, as we build for the future, that we shall continue to have at call the experience, the insight, the energy, the scientific point of

view and the wide acquaintance of the man who has done so much to advance the Council in the esteem of our people and in its service to American education.

WILLIAM F. RUSSELL,
Chairman.

Federal Aid for College Students

THE Federal Emergency Relief Administration has made available funds to pay approximately 100,000 students an average of $15.00 a month each for part-time work while attending college during the coming school year. The primary purpose is to increase the number of college students, and so decrease the numbers looking for jobs. This is a continuation, on a larger scale, of the project in operation last spring, when 75,000 students were so aided.

The significant features of the new plan are thus described by Administrator Harry L. Hopkins in his letter of July 3 to State Relief Administrations:

"6. Funds allotted shall be used to pay students for doing socially desirable work, including the sort customarily done in the institution by students who are working their way through college, such as clerical, library and research work. Regular class instruction shall be excluded but students may be assigned to extension, adult education, recreation and other activities that increase the usefulness of the college to the community. Each institution shall pass on the acceptability of its own work projects. All jobs must be under the direct charge of the institution.

"7. Inasmuch as the principal objective of using relief funds for student aid is to increase the number of young men and women going to college, funds allotted shall not be used to replace college funds heretofore available for student aid. Ordinary maintenance work about the college, waiting on table in dining halls and other routine activities that would have to be carried on anyway shall be financed from the usual sources, not from F.E.R.A. funds. Violation of the spirit of this provision shall be considered a cause for withdrawing a college's entire allotment of student aid funds and assigning it to other institutions."

It will be noted that these regulations offer an opportunity not only to employ students on the campus but also to develop, with their help, valuable relations with useful community enterprises. Because of the novelty and significance of this opportunity the Committee on Cooperation in Federal Projects of

the American Council on Education volunteered to cooperate with the F.E.R.A. in helping colleges and universities realize the desired results. This report describes its activities in this matter.

Exploration of the possibilities of this new proposal was begun by inviting representatives of a number of public and semi-public welfare agencies in the District of Columbia to confer with representatives of five local universities. The possibilities and the difficulties of finding new jobs that are socially beneficial and that increase the usefulness of the colleges to the community were discussed. As a result, each university agreed to assign a member of its staff to a committee to make a search for appropriate new jobs in the District of Columbia and each welfare agency agreed to give this committee as many practical suggestions as possible.

This committee divided the field, one taking charge of public health, others of recreation, education, libraries and museums and social agencies. In order that the results might be comparable, each sought answers to the following seven questions:

1. What is the nature of the work to be done by the student?
2. Would the work be done if students were not available?
3. How many hours per week and what hours (A.M. or P.M.) are students wanted?
4. Is the work temporary or will it last through the school year?
5. Can the work be done by any college student or is specialized training (medicine, law, etc.) required?
6. Have you any preference with regard to the sex or color of the student working?
7. List each type of job with brief description of the work.

Returns were received from more than fifty agencies. Over 300 projects were suggested, offering appropriate job opportunities for 1400 students. Since the quota of eligible students for the District of Columbia is about 800, this list, though not at all exhaustive, gives the universities a practical basis on which to begin placing students in extra mural jobs that serve the purposes both of relief and of education. This

list has been printed and will be sent without charge on request.

The District of Columbia is unique. Therefore, to determine how far the procedure used there is applicable elsewhere, it was tried out in several Virginia college towns. Contact was first made with the State Department of Education at Richmond. A conference was arranged with representatives of the six local colleges that are recognized by that department. These representatives themselves had neither the time nor facilities to make a survey of local job possibilities similar to that made in Washington, but agreed to act as a local committee to consider applications for student help made by local public and semi-public service agencies.

To stimulate such applications, interviews were held with officers of the State Departments of Public Health and Conservation and with the Municipal Department of Play Grounds, as well as with the Richmond Council of Social Agencies, the Virginia Historical Society, the Museum of Art and the Garden Homesteads. Several already had undertaken projects in which students could render useful service. For example, the Department of Public Works of Richmond desires to complete an inventory of the real property of the city as well as certain city planning charts and traffic surveys, which had been begun last year as C.W.A. projects. Completion of these would be the means of bringing a large increment of tax revenue and much greater equity of taxation and would provide the requisite data for development of a slum clearance and housing movement. Similarly, the Virginia Historical Society has numerous documents which it wants to catalogue to render them available to students and to the general public. The local relief committee also needs help in making case studies of individuals on relief. All of these agencies agreed to formulate specific statements of their needs and to submit them to the local college authorities.

At the University of Virginia it was found that plans had already been made to assign most of the students on relief funds to work about the campus, as was done last spring. Inquiry of agencies in the neighborhood revealed that the local relief administration needs additional helpers for case

work among its clients on relief, particularly for cases requiring nursing and home instruction. This offers a fine opportunity for extra mural employment of nurses from the Medical School, as well as of students of sociology and home economics. The relief cases also frequently need legal advice, which offers opportunity for a free legal clinic administered by advanced students in the Law School. The County Superintendent of Schools of Albemarle County reported at least 8,000 white illiterates in the county about whom nothing is being done. As a result of finding these and other similar opportunities, the University appointed a faculty committee to study the situation and approve allocation of students to extra mural work. This committee has approved the allocation of four students to the State Geological Survey, ten to the Water Resources Division of the State Department of Conservation, and ten to various departments of the City of Charlottesville for special local studies.

The State Teachers College at Farmville presented a particularly interesting case. Located in a small rural community, there are as many young women in the institution as in the rest of the population of the town. Hampton Sydney, a liberal arts college for men, is located in the open country about ten miles distant. Neither of these institutions had attempted to discover any socially desirable extra mural work for students meriting relief funds.

Conferences there with the County Agricultural Agent and the Home Demonstration Agent of the U. S. Department of Agriculture, with the local relief administrator, and with the editor of the county newspaper disclosed the fact that farmers in the district are confused as to the meaning and the implications of enterprises initiated by the Agricultural Adjustment Administration, by the Federal Farm Credit Administration, and other recently inaugurated Federal activities. Farmers would gladly attend conferences at which questions that bother them might be simply discussed. The editor would gladly print the essential points of such discussions and conduct a question and answer column if college faculty or students would edit it. Case studies of the actual operation of New

Deal legislation throughout the county might readily be made by students, and would be helpful not only to those concerned but also to the various agents of the Federal Administration in aiding them to overcome the actual difficulties encountered under the conditions peculiar to that particular locality.

Further investigation revealed a demand for elementary skill in handicrafts, drawing, tool-making and decorative arts. Folk songs and folk dances still exist among some of the older people in this rural community, even among the illiterates, yet nothing is being done to encourage their retention and development. The ancient cultural traditions of the locality have probably never been studied, analyzed and recorded.

Cooperation has now been established between the two colleges and the various county officials to discover the specific needs of the people in the county and to develop an educational program that meets these needs.

In addition to these necessarily hurried surveys, the Council's committee also held conferences with representatives of a number of Governmental agencies to obtain cooperation in presenting to colleges opportunities for the socially desirable work intended by the F.E.R.A. The first approached was the Employment Service of the Department of Labor. Many thousands of young people of college age are enrolled with this service. Many belong to the 70 per cent of our population of A and B grade intelligence that does not get any higher education. The emergency relief funds would obviously be well invested if some of these gifted young people might be guided to further educational opportunities. The Employment Service now has instructed its agencies to scan their employment rolls and advise those young people who are seeking work and have capacity for higher education to apply to colleges for the F.E.R.A. stipend.

Similarly, the Director of Extension Work of the U. S. Department of Agriculture, when he heard the story of the Farmville Normal School, wrote to the State Directors of Extension, suggesting that they apply to nearby colleges for student help in county work. This letter contains the following paragraph:

"In explaining the objectives of the A.A.A., the Farm Credit Administration, in furthering crop readjustment and diversification, farm refinancing, better housing and home modernization, as well as in the ordinary work of extension in agriculture and home economics, it seems to us that you may find it possible to use certain students from the nearest colleges as assistants in your offices in one or more of these projects this winter. At the least, they may be of clerical service to you, a certain number of hours each week, if transportation can be arranged. At best, they may render valuable assistance in educational work, in leading discussions with community leagues, meeting 4-H clubs, or possibly conducting regular columns in the county newspaper with the cooperation of the editor—that may supply authentic and useful information to readers concerning the objectives of the Government and the local operations of its various new agencies."

Another interested Federal agency is the Consumers' Division of the National Emergency Council. This Division is organizing local Consumers' Councils in two hundred counties this winter. The job of each is to study specific results of New Deal policies with individual consumers. The projects contemplated include studies of family consumptions and expenditures, particularly in families with low incomes; retail food price surveys in cities not covered by the Bureau of Labor Statistics; a survey of the number of retail outlets and retailers' "mark-ups" or gross profits; a survey of the cleaning and dyeing industry as already carried out in Indianapolis and Louisville; and a study of the effects on consumers of State anti-trust laws and municipal licensing regulations. Participation in any or all of these projects would obviously be of educational value to the students whether they receive Federal stipends or not.

The Commissioner of Labor Statistics is also much interested in the studies proposed by the Consumers' Council. He is willing to supply supervision to groups of college students that desire to undertake such studies as the expenditures of families of employed wage-earners. Schedules will be supplied by the Commissioner of Labor Statistics showing what information should be gathered from individual families in a house-to-house canvass.

The Director of the educational activities of the C.C.C. has advised the educational advisers at the various camps that student service may be secured from neighboring colleges to help in the school work in the camps.

The Brookings Institution is preparing a list of questions concerning State finances, answers to which are desired simultaneously from all States. The Institution is suggesting to the Departments of Government of State Universities that advanced students be given responsibility for securing these data as part of a national survey now in process at the Brookings Institution.

There are many other ways in which college students may participate in local volunteer efforts to improve living conditions and in so doing get rich educational experiences. For example, last year Citizens' Councils for Constructive Economy were organized in several hundred localities. These are studying the political and economic management of their respective towns. Students in high school or college could get no better introduction to political science than through participation in such factual surveys of the actual conditions in the home town.

In Vermont last year the State Chamber of Commerce offered a trophy to the high school that would make the best charts of local income and expenditures over the past five years. This enterprise aroused large interest among the students and resulted in better public understanding of the actual financial conditions within the State.

Though the Federal Emergency Relief Administration is supplying substantial funds for helping needy students participate in practical community enterprises of the sort just described, educational institutions should not assume that such participation is to be limited to students who receive Federal stipends. Clearly, the educational benefits to be derived from such practical cooperation and first hand contact with actual conditions of life have enormous educational value for any who partake in them. It is to be hoped, therefore, that this proposal of the Federal Emergency Relief Administration may turn out to be the overt act that initiated a widespread

development of this sort of cooperation between the college and the community for their mutual benefit. To aid in the achievement of that much to be desired result is the chief purpose of this report.

In these days of rapid political and social changes it is high time that the ancient aloofness between town and gown be broken down. America needs now as never before young men and women who not only have their intellects disciplined by higher training but who also have their feet on the ground so that they can deal realistically with actual conditions. After all, such cooperation between town and gown is the essence of the true spirit of the University. For the University does not exist to teach. Everything else does that. The University exists to discover and to create—to discover truer values in life and to create practical means for realizing them in action.

C. R. MANN, *Chairman.*

The Copeland Experiment in the District of Columbia

IN THE United States today the average age of the prison population is 23 years. The largest age group is found at 19 and the next largest group at 18. Most criminal careers begin in childhood.

The foregoing facts are three of the most significant findings established by the hearings conducted by the United States Senate Sub-Committee on Racketeering and Crime last year. These facts led the Chairman of that sub-committee, Senator Royal S. Copeland of New York, to institute a campaign for strengthening the public schools in their treatment of anti-social tendencies in children. His challenge to the schools was delivered to the Department of Superintendence of the National Education Association at its meeting last February in Cleveland, and to the American Council on Education at its meeting last May in Washington. Both of these challenges have been given wide publicity.

Having spent most of his life in medicine and public health, Senator Copeland fully understands the enormous advance that has been made in these fields by clinical methods of work. Hence he pointedly asks, why not approach the attainment of mental, moral and social health in much the same way as we approach that of physical health? The doctor deals with patients as individuals. Why should not the teacher deal with the children as individuals? The doctor makes an individual record of the normal characteristics of physical health and the exceptional symptoms that he observes in each patient. Why should not the teacher do likewise? On the basis of such records the doctor diagnoses the physical strengths and weaknesses of his patient. If the teacher had an analogous record he could help each pupil make a diagnosis of his own strengths and weaknesses of character. In the case of good health the doctor prescribes regimens that maintain and develop health. In the case of illness, the doctor tries to help the patient achieve normal development of health through attention to

normal patterns of activities. Certainly the teacher can do likewise when the diagnosis reveals incipient anti-social tendencies. In the case of physical illness the doctor has the legal authority to disrupt the child's prescribed school program in the interest of physical health. Senator Copeland asks educators whether it is not time for those in the educational system who are responsible for health of character in children to give precedence to prescriptions for moral and social health over prescriptions for academic work.

This shift of emphasis from obedience to the mass prescriptions of a required curriculum to prescriptions adapted to the individual needs as shown by appropriate diagnosis and behavior records, Senator Copeland terms the clinical approach to education. His specific proposal to the schools is that they use every resource of research and experimentation to develop this clinical method of treatment as rapidly as possible.

With the enthusiastic approval of the Board of Education of the District of Columbia the experiment proposed by Senator Copeland has been undertaken in the public schools of Washington under the direction of Superintendent Frank W. Ballou. In June of this year, the Seventy-Third Congress added approximately $70,000 to the ten million dollar budget for the public schools of the District of Columbia at the request of Senator Copeland and the Board of Education for this purpose. Washington was selected for this study, partly because it was a convenient location, partly because Superintendent Ballou and the Board of Education are enthusiastic about the project, and partly because the teaching corps of the city has been working upon the problem for the last five years. The purpose of the appropriation is to provide for adequate experimentation to discover how the desired results can be secured at the lowest cost.

In setting up the program, it was decided to use a spearhead attack, or, in other words, to work in a small area most favorable to success, make it as effective as possible, learn from this experience and extend into other areas as soon as practicable. In following this plan five white schools and five colored schools were selected on the elementary, junior high,

senior high, night high, and vocational school levels. The fourth grade in the elementary school was brought into the project, the seventh grade in the junior high school, and the tenth grade in the senior high school. In 1935 the fifth, eighth, and eleventh grades will be added, and in 1936 the sixth, ninth, and twelfth grades will also be included. In 1934-35, approximately 175 teachers and 5,500 pupils are directly included in the project.

In preparing the program for 1934-35, a three-week conference was held beginning June 25. In attendance at the daily three-hour conferences were the superintendent, the two first assistant superintendents in charge of junior and senior high schools, the two assistant superintendents in charge of elementary schools, the assistant superintendent in charge of the project, the two assistant superintendents in charge of the research departments, the two supervising principals of the divisions in which the two elementary schools were located, the director of the attendance department, the director of the community center department, the statistical officer of the system, the principals of the schools with their assistant principals, and the presidents of the two teachers colleges—a total of 28 persons.

The chairman of the conference was W. W. Charters, whose function was to assist the group to set up a program which would fit the local situation and express the ideas of the school corps. To assist in the consideration of new records and of individualized education, Ben D. Wood was present for a few days. To advise concerning the measuring program, Ralph W. Tyler was present for one conference. C. R. Mann was in regular attendance as a member.

At the first meeting agenda of the conference were formulated. At the final session the following résumé of the work of the conference was presented to throw into relief the logical structure of the program as worked out from day to day:

I. BASIC PRINCIPLES OF THE PROGRAM

The conference first concerned itself with a statement of the basic principles which should underlie any program

of character education, and tentatively agreed upon the following:

1. The personal aim of education is to help each child develop the desire and the power to make the right choice in any conduct situation.

2. The job of the teacher is to teach children, not subjects.

3. Individualized education emphasizes the facts that the whole personality of the child—intellectual, aesthetic, social, physical, and moral—is involved in his education; that the development of social and moral qualities is of equal or greater importance than is the acquisition of information; and that the school must take cognizance of the extra-school life and living conditions of the child. Promotion and graduation, as well as the curriculum of the school, must logically follow these lines of emphasis.

4. General behavior patterns (the virtues, conventions, moral traits, or mores) derive their importance from the appreciation of values which they promote in the individual child. They are not ends in themselves.

5. The behavior of an individual is determined by his personal scale of values. Those things which a person feels to be most worth while dominate his actions and decisions. Hence it is a primary concern of teachers to help each child develop an ever truer scale of values.

6. Attitudes, desires and urges are controlling factors in behavior. To help the child learn to want to do right is a major responsibility of schooling.

7. Clear thinking is essential in meeting new situations and changing conditions effectively. Helping children learn to think their way through in perplexing situations is a major obligation of schooling.

8. Fundamental habits, virtues and conventions care adequately for wide areas of behavior. Such habits, when of durable value, should be developed by the school within the situations to which they apply.

9. A sense of enduring satisfaction with work done accelerates the learning process. An effective school conducts its exercises with an atmosphere of friendliness and good will and gives generous credit for the simple achievements of the child.

10. The most wholesome growth results when environmental conditions are favorable. It is the obligation of the school to see to it that the child's life is adequately pro-

tected, and that all kindred school and community organizations and institutions, including the home, are stimulated to provide appropriate conditions for the development of children.

11. An expanding philosophy of life makes for continuing growth. This is promoted when children are encouraged from time to time to formulate their own best judgments of what immediate goal is most worth while and to organize their behavior to achieve that goal.

12. Growth and personality are best promoted when children think and act in situations which are real to them. Reality to the children concerned is a prime consideration in selecting the activities that make up the program of every school.

13. All education is self-education. In every school the children who are being educated actively participate in planning school activities, in carrying the plans out, and in evaluating the success of their efforts.

14. Concord of desire is the motive power that impels men to create useful social institutions. Such concord develops naturally when environmental conditions encourage free expression of such fundamental and universal human emotions as common neighborly good will, creative impulse, passion for excellence, joy in useful achievement, love of beauty, skill, hunger and thirst for understanding. It is by ever fuller realization in action of these universal human desires that personality becomes integrated in growing people.

II. INDIVIDUALIZED EDUCATION

Proceeding to more specific elaboration of the central theme of these statements, we have adopted the position that our program is a program of individualized education—that the function of our schools is to teach children rather than to teach subjects. In reducing this general idea to a form concrete enough to be followed in teaching situations, we have adopted eight criteria by which to determine whether or not education has become individualized. These criteria, stated in the form of questions, run as follows:

1. Is your objective the improvement of the individual as a social being?
2. Is the pupil successful in doing what has been assigned

to him? Does the child realize that he is successful, and does he get that satisfaction which comes only from success?

3. Is the pupil really interested in what he is doing and satisfied by doing it?

4. Does the pupil work aggressively without external compulsion?

5. Is your prescription based upon sufficient information regarding the abilities, interests, and needs of the pupil as a social being?

6. Do you recognize that your prescriptions are instrumental and provisional rather than objectives made and handed down which must be achieved at all cost?

7. Does your prescription take account of extra-school influences upon the learning habits of your pupils?

8. Is your judgment of the success of the pupil based upon what you think the pupil can do or is it a mass standard?

In learning situations three essential factors contribute to effective growth and deserve special attention. The first is the integral relations of action to desire, interest, and the primary urges. To achieve the outcomes of education, it is necessary that pupils' desires and urges be directed so that they will want to achieve worthy outcomes. Consequently the attention of the teacher must be directed to developing emotional attitudes favorable to such outcomes. The second of these is the law of effect, which means that growth tends to feed upon success and indicates the necessity for teachers' helping children to feel the glow of satisfaction which should follow their simple successes. The third is the central position of thinking in all new situations. If teachers can teach a pupil how to think carefully and sincerely in the situations which face him, they need have little concern about the solutions he arrives at.

III. DEFINITION OF CHARACTER EDUCATION

We have differentiated our so-called character education program upon which we are entering from the usual programs of schools in two respects. This definition is necessary because in the last analysis all education is character education.

In the first place, we are concerned with ten areas of experience for exploration by pupils in contrast to the more re-

stricted areas ordinarily followed in schools, and have set up definite outcomes to be achieved in each area. In presenting these areas and their outcomes the task yet remains in our planning procedures to allocate to the four divisions of the twelve years the responsibility of each in achieving these outcomes. The areas to which all the children of the schools should be exposed and the outcomes that each at the level of his capacity should achieve are the following.

IV. OUTCOMES AND AREAS OF EXPERIENCE

1. *Health activities.* The field of health activities is understood to include both mental and physical health. Every child:

(*a*) Is interested in his own mental and physical health and that of the community.
(*b*) Establishes an adequate set of personal health habits based on the facts of physiology, psychology, and hygiene.
(*c*) Promotes mental and physical health activities of home, school, and community.
(*d*) Understands the important relationships that exist between mental, moral, and physical health.
(*e*) Reads health information in magazines and newspapers with intelligence.

2. *Intellectual activities.* Every child:

(*a*) Sees both the social and the scholarly values of the subject matter pursued in his courses and desires to make it his own.
(*b*) Thinks independently and discusses important matters with intelligence.
(*c*) Gets a satisfying after effect from his classroom exercises.
(*d*) Sets for himself advancing goals and standards of excellence.
(*e*) Has an intelligent respect for scholarship.
(*f*) Has facility in reading and in the use of oral and written English.

3. *Economic activities.* Every child:

(*a*) Understands the considerations underlying the spending, saving, earning, and giving of money.
(*b*) Uses money intelligently.

(*c*) Is interested and intelligently informed about current economic problems, and forms his own tentative solutions.

(*d*) Understands the workings of the common economic institutions with which he comes in contact, such as banking, retailing, etc., from the consumer's point of view.

(*e*) Sees the economic institutions of society as agencies for promoting social welfare.

(*f*) Reads with facility economic materials written for the layman.

4. *Vocational activities.* Every child:

(*a*) Appreciates the dignity and importance of labor.

(*b*) Enjoys the experience of working at his daily tasks.

(*c*) Studies with intelligence the occupations that may be open to him, and makes his choices in terms of their opportunities and his own capacities and limitations.

(*d*) Understands the basic structure and functions of the industrial life of the nation.

(*e*) Reads and understands the materials in this field written for the layman.

5. *Political activities.* Every child:

(*a*) Has an ingrained and intelligent respect for law.

(*b*) Is interested and intelligently informed on the current political problems, and forms his own tentative solutions.

(*c*) Accepts the obligation of every citizen to participate in the civic life of his community, state, and nation.

(*d*) Understands the workings of governmental agencies with which he comes in contact, such as courts, Congress, and local commissions, from the point of view of the citizen.

(*e*) Sees political institutions as methods of promoting social welfare.

(*f*) Reads discussions of political issues with intelligence.

6. *Recreational activities.* Every child:

(*a*) Thinks of recreation as a component part of his life and finds a place for recreation in his daily program.

(*b*) Enjoys participation in a variety of well selected recreational activities.

(*c*) Establishes the beginnings of wholesome leisure-time activities.

(*d*) Acquires attitudes and habits of cooperation, good sportsmanship, and leadership in recreational activities.

7. *Sex, parenthood, and family life.* Every child:

(*a*) Sees sex as one of the great moving factors of civilization.
(*b*) Has an understanding of reproduction as a biological process.
(*c*) Participates intelligently and with good will in the life of his own family.
(*d*) Sees the family as the basic unit of society.

8. *Social activities.* Every child:

(*a*) Has a concept of himself as a valuable member of his group with opportunities and obligations.
(*b*) Participates in group activities from inner interest rather than from outer compulsion.
(*c*) Practices the ideals of fair play and friendliness in his group relations.
(*d*) Appreciates the values of friendship and chooses his friends with these values in mind.
(*e*) Consistently seeks to understand the point of view of other people.
(*f*) Has mastered the courtesies involved in living happily with others.
(*g*) Is quick to appreciate the efforts and contributions of other members of the group.
(*h*) Realizes that his own personal development is the greatest contribution that he can make to the group, and accords every other member of the group the right to develop in his own way.
(*i*) Analyzes situations and makes choices with understanding and with consideration for the welfare of others.
(*j*) Uses the contributions of his groups to advance his own plans for wholesome development.

9. *Aesthetic activities.* Every child:

(*a*) Has good taste.
(*b*) Has an intelligent interest in art, literature, music, and drama.
(*c*) Has an understanding of these arts as major factors in the evolution of civilization.
(*d*) Has an appreciation of the aesthetic arts, and within his capacity expresses himself through several media.
(*e*) Likes to read literature, visit exhibitions of art, attend the theater, and listen to musical programs.

10. *Religious activities.* While it is the obligation of the church and not the function of the public schools to give religious instruction, every child should:

(*a*) Respect religious ideals.
(*b*) Perceive the influence of religious thought in civilization.

V. BEHAVIOR PATTERNS OR TRAITS

A second method of differentiating our individualized education program from the usual conception of school education lies in the fact that we are directly interested in a wider range of ideals and behavior patterns. School programs are usually concerned with those characteristics of personality which aid in the mastery of subject matter, such as scholarliness, thoroughness, scholastic ambition, and competitiveness. Our program has through the years increased this range, as indicated in our School Document No. 9, 1931 (Preliminary Report on Character Education in the District of Columbia), until we now agree to set up behavior patterns of seven kinds, all of which are to be emphasized as outcomes of our program. These seven groups of behavior patterns are conceived in the following fashion:

1. *Intelligence:* resourcefulness, brightness, keenness, discrimination, scholarship, objectivity, ability to plan, foresight, breadth of interest, good judgment, originality.
2. *Honesty:* fairness, justice, integrity, open-mindedness, tolerance, sincerity.
3. *Friendliness:* courtesy, kindness, neighborliness, generosity, sympathy, understanding, considerateness, cheerfulness, sociability, unselfishness.
4. *Efficiency:* accuracy, skill, carefulness, neatness, speed, thoroughness, promptness, punctuality, thrift.
5. *Cooperativeness:* self-control, team work, dependability, responsibility, tact.
6. *Forcefulness:* initiative, drive, persistence, confidence, industry, concentration, courage, enthusiasm, ambition, fluency, decisiveness.
7. *Good taste:* refinement, love of the beautiful, good personal appearance, dignity, poise, appreciation.

NOTE: Differences of opinion concerning the classification of this sort of behavior patterns is inevitable but unimportant. The essential consideration is the inclusion of valuable patterns. Neither is the list complete, but it is believed that the classes represent a practical short list of desired types of behavior.

The outcomes have been stated in two forms in order to clarify two important aspects of the problem. While a casual reading might suggest that either form is complete in itself, a critical study will show that each part supplements the other.

Areas and outcomes indicate the approach to the problem. Character develops through experience. The outcomes suggested focus attention on the growth that results from participation in widely varied activities of life. They become a basis for constructing a school program. But such a series of specific outcomes never includes all the desired results of education. Unless those responsible for the school program have these more generalized types of behavior in mind, the possibilities inherent in school situations may not be fully realized.

The list of behavior patterns meets this need. Such groups of personality traits have been utilized since the beginnings of recorded time to designate certain desirable behavior patterns. These concepts are based on racial experience. They are familiar and convenient statements of universally recognized human values. Used as an approach to the problem of character education, such traits tend to become platitudes. Used as criteria by which to check the results of the school program, such concepts furnish the basis for evaluating particular cases of behavior not included in the list of specified outcomes.

VI. RECORDS OF BEHAVIOR

Having accepted the concept of individualized education as the principal method of reaching our stated objectives, it became necessary for us, first of all, to devise machinery by which teachers will be able to learn much about their pupils. This involves the collecting and recording of vastly more in-

formation than is now available in usable form. We therefore turned our attention to the development of records of several varieties. First, we decided that certain minimal facts (to be worked out) shall be collected on all children. We next decided that current records of characteristic and significant actions of children shall be collected by teachers and officers as so-called anecdotes. We decided in the third place that, for problem children and for children who are taken to court or to the judge of the court, detailed case studies shall be made wherein all useful data that could be collected from the school records, from psychiatrists and other specialists should be assembled and used in diagnosing the maladjustments of these children and setting up remedial procedures. We also added to these records the results of interviews with guidance officers. All of these materials we decided to assemble in record *folders*. Finally we agreed to summarize the most significant data in the folders upon record *cards* for ordinary use.

VII. GUIDANCE

This material will be collected from many sources, primarily for the use of those persons in the schools whose function is to understand each child as an individual and in the light of his understanding to aid him to develop wholesomely and vigorously. Our program therefore calls for guidance officers who may be teachers, home room teachers, counselors, principals, or other officers. The location of this responsibility is yet to be determined.

VIII. FLEXIBILITY OF ORGANIZATION

The acceptance of individualized education as a primary concept makes necessary a flexibility of organization and administration greater than has been developed under the concept of mass mastery of subjects. In general, this flexibility will be guaranteed when Superintendent Ballou secures, as announced, the suspension of rules and regulations of the Board of Education which will admittedly handicap a flexible program. The schools will then need carefully to consider what modifications will be beneficial to the progress of our program.

IX. CURRICULUM REORGANIZATION

The pursuit of the concept of individualized education leads logically and inevitably to curriculum reorganization, the addition of new subjects, the modification of the outcomes of subjects now taught, flexibility of subject compartments in the lower grades at least, and the modification of the content of specified courses to meet the needs and capacities of individual children. This is a major task which must be worked upon continuously and concomitantly with other problems of the project. Its importance and difficulty are greatest in the senior high school area.

Specifically, it is advisable to expect all teachers in the autumn to state what contributions they hope to make to the outcomes of the project, and at the end of the year to assess their efforts and indicate improvements they foresee in working upon the project in a second year.

X. GIFTED PUPILS

A program of individualized education demands attention to gifted children who ordinarily waste their precious capabilities because they are not given opportunities commensurate with their abilities. Experiments in individualized instruction can be undertaken to allow pupils with the aid of self-teaching materials to proceed at their own rates of progress. These will be cared for upon an experimental basis.

XI. MORALE

Obviously in carrying out such a program, which admittedly cuts across the life habits of those who are teachers of subjects, the continued enthusiasm of teachers and their persistent commitment to its aims are essential. Therefore the establishment of a high morale is clearly indicated and this is in the last analysis dependent upon the vigor, resourcefulness, persistence, and leadership of the principals and all other major officers. The whole hearted participation of the children in the adventure is central in importance. This emotional factor must be fostered and strengthened.

XII. IN-SERVICE TRAINING

Logically this demands the in-service training of teachers by the principals and the teachers colleges through the provision of reference material, conferences, faculty meetings, and particularly by the positive leadership of the principals. Since the success of the project rests finally upon the skill and interest of the teachers and the enthusiasm and cooperation of the pupils, we shall give major attention in our program to in-service training.

XIII. THE SCHOOL AND THE COMMUNITY

Proceeding from the school to the community, we hold that the school is only one agency among many which mould the characters of children. Two obligations follow. It is our responsibility to enlist every agency in the community to contribute to the wholesome development of children. Some of the agencies can be stimulated to make good children better by providing increasing facilities for happiness; other agencies can contribute services for making bad children better through remedial assistance. The community agencies in this city are already unusually active in these directions.

But on the other hand, the schools are obligated to stimulate the improvement of unwholesome agencies and environments. The schools are charged with a primary responsibility for seeing that the child is everywhere surrounded by influences which will promote his growth in character and personality.

Since the schools serve the public, it is their obligation to interpret their program to the parents of their children. If the public understands, it is our conviction that they will believe in the project as fully as we endorse it and will support it in a multitude of tangible and intangible ways. But in all discussions with citizen groups it is necessary cautiously to insist that since many independent forces mould the character of the child, the efforts of the schools alone are not equal to the total task of rearing good citizens.

XIV. THE PROJECT'S PLACE IN THE SYSTEM

In relation to the schools of the city not included in the present program, two points must be kept in mind. First, this project has a double purpose; namely, to develop a program as favorable to character education as possible and to discover methods of making the program as low in cost as is possible in relation to effectiveness so that when the project embraces all the schools of the city the total costs shall be as little as possible and still be highly effective. In this lies the wisdom of a spear-head program. Second, all the schools of the city should continue to improve the programs that they have set up. They will contribute ideas for the use of the schools in the project, and will be provided with suggestions that grow out of the experiment. Unless this project is seen by all to be an integral part of a city-wide activity, the results will be unfortunate.

XV. DISTRIBUTION OF IDEAS

On the technical side we have decided that two widely different procedures will be useful. On the one hand we are convinced that the spread of excellent methods of developing personality is materially aided by the collection of methods used by teachers in all parts of the system and by the publication of these methods for the use of teachers in all parts of the system. We have therefore set up machinery for establishing a city-wide reservoir of experiences to be fed out to those who want to use them.

XVI. APPRAISING RESULTS

On the other hand, we believe it necessary, in carrying out a program into which money and effort are generously poured, to measure our results. Such measures will be largely subjective and only in part of objective validity. Yet, believing that a mass of approximate facts is better than the unsupported opinion of scattered individuals, we are setting up a comprehensive program for measuring our efforts as accurately as we can.

XVII. PROPOSED PLANS FOR 1934-35

In conclusion, we have prepared detailed but tentative plans to be put into operation next year after they have been studied and modified by the teachers in our selected schools. We assume that these are tentative plans because the teachers must have an active part in their final formulation, and we shall probably modify our own plans upon further thought before the opening of school.

It has become apparent that as the conference has progressed our enthusiasm has deepened and our ideas have clarified. We are increasingly convinced that the project is a major undertaking and that if we are reasonably successful we shall be able to make some contribution to the history of education in America. We shall assemble our teachers in the autumn with a serious understanding of the importance of our undertaking.

W. W. CHARTERS,
Ohio State University.

The Major Strategy of Guidance[1]

IT HAS become a verbal commonplace among leaders that vocational guidance is inextricably bound up with and partly dependent upon educational guidance, and that both educational and vocational guidance are in last analysis dependent upon the comprehensiveness, accuracy, and significance of the information that is secured on each pupil as a *growing* individual. It appears, however, that counsellors in their normal guidance practice do not have an adequate conception of, and are not making adequate efforts to bring about, the fundamental changes in our educational system which are prerequisite to securing and using that minimum amount and quality of information which is indispensable for immediate adjustment and long-term educational and vocational guidance.

The information which the counsellor now normally has regarding all but a very few of the children does not exceed the following items: (1) a group-test I.Q., and sometimes scores on one to four objective achievement tests; (2) the teachers' subjective grades in the courses which the student has "taken" to date; (3) sometimes the data on one or more questionnaires answered by the pupil and/or parents and/or teachers; (4) the counsellor's notes and impressions based on one to three brief interviews. The latter information is now normally available only for those few individuals that are referred to the counsellor as "problem cases." The I.Q. and objective test scores may have been secured from one day to a year or two prior to the first interview with the child; the teachers' marks are subjective and variable in meaning and standards, and give little or no indications regarding the growth of the child in any particular respect, or regarding the hierarchy of his interests and abilities; the weaknesses of questionnaires and sporadic interviews are too well known to need mention.

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[1] Certain paragraphs from this paper were included in a joint article by F. S. Beers and the writer, in the April, 1934, issue of *Occupations*.

What is the minimum information prerequisite to hopeful guidance work and how may it be secured? The answer to the first will partially indicate the nature of the answer to the second of these questions.

The most adequate brief answer to the first question known to the writer is outlined in the cumulative educational record form published by the American Council on Education in the July, 1928, *Educational Record* Supplement. This form is arranged so as to give a compact, integrated, and sequential sketch of the educational history and extra-curricular life of the individual for a six-year period. Three such forms, used consecutively, will cover the elementary, secondary, and collegiate career of an individual. The record form, when filled out, presents a time-projection of the high points of the life of the individual for the period covered by the record. The most prominent feature of the form of this record is its vertical columns which, from left to right, represent successive calendar years, and which are subdivided by light lines into calendar quarters. In the left margin the rubrics or types of information are indicated, so that a given type of information is always found in a given line, and the date of the observation, measurement, or event is indicated by the column in which it is recorded. Thus it is possible to secure a bird's-eye view of the recorded life of the individual in any one year by reading all the material in the column for that year, or to follow the individual's development in any recorded aspect by reading all the entries in a given line from left to right. Essentially a graph, this form has been found very convenient both for recording and for organizing and interpreting information of many types and from various sources of information.

But, while the form of this record has positive values far greater than mere convenience and economy, it is the nature and extent of the information called for which is of paramount importance. This fact may be most conveniently apprehended by a study of the form itself, filled out for a *bona fide* case history, which is reproduced here, with a summary of accompanying discussion, from the *Educational Record* Supplement of July, 1928.

The Case of John Morton Smith, Jr. The facts concerning this boy were accidentally discovered in the records of a large city school which took exhaustive measures of its pupils but made no use of them because of the lack of an effective way to assemble and present them.

In 1927 John took college entrance examinations in five subjects with results indicated by the open circle in that column. He was refused admission because in English he ranked among the lowest 16 per cent, because the principal, supervisor, and mathematics teacher (all strangers to him) estimated his intelligence as below average, and because in a three-minute interview the college admissions officer could make nothing out of an excessively shy, self-conscious, and excitable lad.

The unused data in possession of the school when brought together in cumulative form tell a very different story; in fact they seem to indicate that the college officer who rejected this boy was actually dealing with a mind that should have been classed among the best 5 per cent of college risks. There are ten measures of John's intelligence as shown in the I.Q. graph beginning in 1922, none of them falling below the ninety-fourth percentile. There are four standard measurements in geography, three in American history, and one in economics—all above the ninety-seventh percentile. English fluctuates more widely but is nowhere below the eighty-fifth percentile, while of seven measures in French all but one are in the highest 2 per cent of modern language ability for the respective ages. The science line—general science, biology, physics, and chemistry—is lower but still well above the average. The four arithmetic measures are good, but the symbolic thinking required in algebra is indifferently done, and geometry is far down. Fearful of failure in the college examination in geometry, John's parents hired a tutor who had him commit to memory as many theorems as possible with the purely chance result there indicated. Drawing hovers about the average. A Stenquist test of mechanical ability shows poor success. Handwriting is very poor, thus doubtless explaining the low college entrance mark in English—the paper was illegible. Height and weight lines are much under average.

Desiring to enter college a year earlier, the boy learned Spanish by himself when fourteen. The school refused to admit him to the college examination, but his teacher gave him a standard American Council Spanish test in which he scored in the ninety-seventh percentile for third-year students. The rating in oral Spanish at the same time was, of course, low.

In extra-curricular activities the scattered obtainable facts about this boy make an impressive showing when they are pieced together. When twelve years old he brought to his English teacher an essay on "Shakespeare in Politics" highly documented from nearly every one of Shakespeare's plays. The following summer, having studied French for two years, he read by himself certain editions of four French authors and took the French teacher's examination thereon. Later he translated three short French comedies into English, and in his last year presented a lengthy study of geography that he had made from his French readings. Such work as this apparently earned him the maximum rating for "initiative" at the bottom of the card, although his first rating in that trait is the minimum because it was given by those in charge of group activities which he disliked. His "personality" rating is uniformly low. A psychiatrist rated him in 1923 as markedly introverted. His athletic activities include a little baseball (B), football (F), and tennis (Ten.) in early years, but after the age of thirteen these group sports give place to solitary hiking (H) with a book. Similarly, dramatics (Dr.) and debating (Deb.) give way to what is called "journalism" (J), which, however, was discovered to consist entirely of reviewing learned books for the local paper. His success at his summer jobs is good, his ambitions and interests are steady and consistent.

Studied as a whole, this record gives indubitable indications of a mentality that may be close to genius. The separate items taken alone count for little: but the sweep of evidence across even six years of this boy's life is unmistakable and should place the subject among those whom an institution handles with the utmost care. It is doubtless an extreme instance, but, if a case so obvious as this can be so badly bungled

in our administrative procedure, it seems likely that the average child must be a frequent sufferer.

As a chart for admission and guidance in collegiate and higher education, a true analysis of this kind in the case of any individual would be incomparably better than anything that we at present possess. We now make the most important decisions affecting a child's welfare in school and college with almost no pertinent information. A record of this sort could be gradually compiled from year to year with no greater effort than is now bestowed on unused and in many cases thoroughly useless records. It would supply our lack of information and would enable us to place a pupil or student more accurately and to advise him to his advantage.

This case history partially illustrates the character and extent of the information concerning an individual which the American Council Committee on Personnel Procedures considers as the minimum on which constructive immediate or long-term guidance may be safely based. It does not adequately illustrate one type of information which the committee urged as necessary in its original report (*Educational Record* Supplement, July, 1928, pp. 53-64), namely, the description of the individual's conduct and personality by means of frequent brief reports from the teachers giving anecdotes and concrete observations on the activities, interests, attitudes, and personal development of the pupil. Indeed, it is apparent from this record that the school probably neglected its major opportunity for constructive service to this pupil, namely, that of guiding his personal and social development.

The school took care of the academic interests and abilities not only of this student, and others equally gifted, but also of the needs of non-academic types of pupils; but the emphasis throughout the school, for all types of pupils, was on subject matter or vocational mastery commensurate with the abilities and aptitudes of the pupils as individuals. The school was enabled to make such adjustments largely because of the data from its admirably comprehensive testing program. The school deserves hearty congratulations for performing this indispensable service of academic adjustment, but it deserves

even greater commendation for having inaugurated in more recent years an almost equally extensive and effective service for the more difficult task of caring for the personal development and social adjustment of its pupils.

When John was in this school, the guidance service did not extend beyond academic adjustment. John entered the school a shy youngster, and emerged even more shy—indeed, almost a pathologically retiring introvert. The school itself made no effort to build up the boy's self-confidence, nor did it seek to correct the home conditions which obviously aggravated his shyness. It is gratifying to record the fact that this school is now definitely committed to the theory that its highest duty and privilege is not to teach subject matters, but to help develop individual boys and girls of all types into better and happier citizens.

The present attitude of the officers and teachers in this school toward the various types of data is an interesting and instructive one. Prior to 1929 their guidance activities were, as already indicated, largely confined to the academic field, and were based upon the results of approximately comparable tests given once or twice each year in most of the secondary school subject matters. While recognizing the limitations of objective tests, they used their indications, in combination with other evidences of academic achievement, with considerable confidence and success, especially when the results of three or four sets of semi-annual testing programs had become available for a given pupil.

At the present time these teachers are giving much more time to observing pupils' conduct, recording these concrete observations in the form of anecdotes, and collating and interpreting them periodically, than they formerly gave to testing and examining their pupils. Although the writing of anecdotes was at first regarded as both impossible and of doubtful value in guidance work, the great majority of the teachers are now enthusiastic about this aspect of their work, and regard it as an indispensable element in both their current teaching work and in their long-term guidance work, which now involves the

formulation and progressive modification of individual goals —personal and social, as well as academic.

But this does not mean any loss of confidence in, or lessened use of, comparable achievement tests. On the contrary, the teachers regard the cumulative test data not only as indispensable for academic guidance, but as a necessary basis for personal guidance. They report that many maladjustments, some quite serious in nature, originate in and are aggravated by academic maladjustments, the detection and correction of which would in most cases be very unlikely in the absence of cumulative data from comparable tests. Indeed, these teachers received their original impetus to the personal type of guidance which now happily dominates the school about equally from the marginal indications arising from their use of the test data in academic guidance, and from the cumulative record form and accompanying recommendations published by the American Council on Education in 1928.

In this school there was never any conflict between the use of tests and constructive guidance, nor is there any now. Tests have been regarded as fallible but helpful instruments, especially when used systematically and recorded in comparable units year after year. They have never been regarded as antagonistic to curriculum reform; on the contrary, they have enabled the school to adjust the school work to the abilities and interests of individual pupils to such an extent that in this school "there are almost as many curricula as there are pupils." The teachers are unanimous in the opinion that there is more creative work, more independent thinking, and more genuine interest in and enthusiasm for learning since the introduction of systematic testing than ever before. The liberal policy of curriculum adjustment does not in this school mean lessening of control of pupils by the teachers, or the disintegration of discipline, intellectual or moral; it means making school control of pupils more intelligent and effective; and it means more natural discipline which grows from within rather than depending on external persuasion.

In this relation, it is only fair to say that this school is

blessed with an unusually gifted and humane faculty, and that other schools have suffered from misunderstanding and fictitious conflicts regarding guidance, testing work, curriculum making, and improvement of teaching, from which this school has been saved by the genius of its principal and teachers. Much of the misunderstanding regarding objective and comparable tests is a direct inheritance from the customary misuse of the old type examinations, which in practice were largely flunking and passing devices, used to separate the sheep from the goats, but serving no really constructive purpose for either group.

The misunderstanding of the philosophy, technology, and methodology of the American Council cumulative record form in some schools—fortunately few in number—emphasizes the point suggested above that the first and most difficult task of the guidance movement is to make itself understood by the mass of teachers, and to demonstrate the compatibility of its philosophy and methodology with the highest ideals of education—intellectual, moral, and physical. In spite of the fact that about three-fourths of the space on the American Council cumulative record form was allotted to the personal, social, and extra-curricular history of the individual, and less than one-fourth to the results of all kinds of academic measurements, many wise and judicious school authorities have taken it for granted that the American Council was merely urging the use of tests. Many equally wise school authorities apparently take the pessimistic view that teachers cannot learn to use test results constructively, but will inevitably use them merely as additional guides to unethical coaching activities and other unprofessional conduct. At least one critic of systematic testing and guidance programs has said that teachers are and always will be subservient slaves to the testing program, regardless of whatever guidance they may receive in the proper constructive uses of test data. The experience of an increasing number of schools of all types, including many of our outstanding progressive schools, indicates that these pessimistic views are an unwarranted reflection on the intelli-

gence and integrity of our teachers, on our teacher-training institutions, and on current educational leadership.

How Secure and Use Guidance Information? As suggested above, the answer made in preceding pages to the first question has indicated the nature of the answer to the second question, given here as a paragraph heading. It is now clear, if the preceding answers have any validity at all, that guidance information can neither be secured nor used by any such fifth-wheel gestures as those upon which we have depended in the past. Nothing less than basic changes in the fundamental philosophy and administration of our schools, and nothing less than a complete reorientation of our teachers regarding the hierarchy of their duties, will suffice to realize the ideals of educational and vocational guidance. The basic changes required are clearly implied in the justly famous statement of Professor Morrison to the effect that teachers should spend half their time studying their pupils as growing individuals, and the rest of their time doing what that study indicates is desirable and necessary.

The type of fundamental reorganization and reorientation here advocated may be illustrated from the recent history of Mechanics Institute in Rochester, N. Y. Under the leadership of President Randall, and with the consulting and advisory aid of Dr. Charters and Dr. Tyler, the faculty has been transformed from a group of teachers of subject matter into a group of leaders of youth. Their leadership is based on a continuing study of their pupils as individuals who have personal and social as well as academic and vocational problems. These teachers use all available sources of information about pupils, including intelligence, aptitude, interest, and achievement tests; but the source which they have exploited more fully than in any other school of my acquaintance, and the one to which I wish to call your particular attention, is the Personal Anecdote. The use made of the anecdote at Mechanics Institute is what I shall venture to call the anecdotal method of personal analysis.

The essential nature of the anecdotal method of personal

analysis consists of at least four important procedures which must be carefully distinguished.

1. *Observing Conduct.* The first of these procedures is the persistent and continuing observation of the conduct of the pupil, in and out of the classroom, by all the teachers and school officers who regularly or occasionally come into contact with him.

2. *Recording Observations.* The second procedure is that of making a record of each significant observation in terms that are as concrete and objective as possible, and the filing of these records in some convenient manner so that they may be systematically assembled and studied in the central office. The qualification that each observation should be "significant" is inescapable and implies that the success of the anecdotal method, like the success of teaching, depends in last analysis upon the intelligence, training, and judgment of the teachers. In practice the danger is not that the files will be filled with voluminous but useless anecdotes, but that the teachers will record too few of their observations because they cannot always recognize their significance at the time, or recall them later when their contribution to the growing picture of the growing pupil would be easily detected. The general rule for this part of the procedure is that teachers should record *every* instance of conduct which attracts their attention, favorably or unfavorably, or which seems to them characteristic of the pupil. Teachers must be constantly reminded of the fact that an observation which is not recorded is usually irretrievably lost. A helpful rule in inducting teachers into this method of personal analysis is that each teacher should record at least one anecdote on each pupil each week. The observations may run over the whole gamut of conduct, from performance in class work, manners in the classroom, in the cafeteria, and on the athletic field, to personal appearance, style of clothing, and excessive use of cosmetics. The supreme objective in this part of the procedure is fidelity to the conduct concretely observed, and the avoidance of concealing the observed conduct under meaningless inferences. Inferences and general judgments are valid if based on an adequate sampling of con-

duct, but are rarely valid, or even meaningful, if based on a single observation, or on a succession of observations of a single observer. For long-term guidance purposes an intelligible record of the basis of an inference is vastly more helpful than the inference itself.[2]

Consider, for example, the ambiguities of the rating "undependable" which a teacher gave to three pupils who went on a picnic instead of keeping a Friday afternoon appointment with her. The facts as later recorded by the supervisor were as follows:

Pupil A, after unsuccessfully trying to cancel the appointment by telephone, arrived 15 minutes late, found teacher gone, and then rejoined the picnickers.

Pupil B, failing in efforts to cancel appointment by telephone, went to picnic, and apologized to teacher Monday morning.

Pupil C went on picnic Friday afternoon, making no effort to cancel appointment. On Monday morning, told teacher severe headache had prevented keeping appointment Friday afternoon.

3. *Periodical Analysis and Interpretation of Anecdotes.* The third procedure is that in which the anecdotes from all teachers and observers for a considerable period of time are analyzed and provisionally interpreted. It is this phase of the anecdotal method which differs most strikingly from the traditional rating scale method of personality analysis. In using the older rating scales, the rater was asked to make judgments at a particular time regarding a pupil's relative standing on more or less general and abstract qualities. Under normal conditions, the rater has no basis for judgment save general impressions and whatever bits of observed conduct can be remembered at the moment. In other words, you have only the result of a fallible judgment based on very meager observations. When ratings of several raters are averaged, the result in some cases is but a mixture of incom-

[2] See *Educational Record* Supplement, July, 1928, pp. 53-64. President Robertson's scholarly summary of the studies of the sub-committee on Personality Ratings was in a large measure the foundation on which the Mechanics Institute anecdotal method was built.

mensurables, and is often only but a little more reliable or meaningful than any one rater's judgment.

In the anecdotal method, on the other hand, the teachers and observers are not asked to make inferences or judgments individually, but to make records of concrete conduct which they have observed. These concrete observations are all pooled and analyzed, and their indications are investigated and discussed before any inferences or interpretations are attempted. Judgments resulting from this procedure are much more likely to be reliable and meaningful than are the statistical averages of the same number of ratings by judges who arrive at their ratings independently, without discussion, and with no knowledge of the pupils except their own individual observations. In the anecdotal method the teachers are not mere gatherers of anecdotes: their powers of interpretation and judgment are used, but in a more effective way, because their judgments are based on *all* the recorded observations of *all* the teachers, plus their own unrecorded impressions. The sharp separation of the process of gathering evidence from the process of interpreting that evidence, the basing of the interpretations and judgments on *all* the evidence collected by many observers over a considerable period of time, and the constant availability of the recorded evidence for revising interpretations and detecting trends of development, are the essential features of the anecdotal method of personality analysis.[8]

4. *Remedial Treatment.* Perhaps the greatest advantage of the anecdotal method is its greater usefulness in the prac-

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[8] Space limitations alone account for the absence of any comment in this paper on the "descriptive type" method of indicating and recording judgments, which was devised by Dr. E. R. Smith and the Committee on Records and Reports of the Progressive Education Association, and which is being tried out in some of the schools participating in the Progressive Education Association eight-year experiment. Suffice it to say here that there is no conflict between the "descriptive type" and the anecdotal methods; on the contrary, the latter is the ideal foundation for the former. Dr. Smith's method is designed to afford many of the values of the anecdotal method as far as is possible without actually collecting the anecdotes, and promises much in the direction of releasing us from the vagueness of the older rating scales on abstract qualities. Information concerning the "descriptive type" method may be secured from Dr. E. R. Smith, Beaver Country Day School, Chestnut Hill, Massachusetts.

tical work of helping young people to become better and happier citizens. This advantage derives mainly from the fact that it deals primarily with concrete conduct, and that in the interpretive[4] procedure, *judgment* and *rating* of the pupil on abstract general qualities is naturally and almost inevitably subordinated to comprehensive and unbiased *description* in terms of concrete conduct and trends of development. Favorable features and desirable trends are just as specifically recorded as unfavorable features, and the fact that the favorable features are known to all the teachers frequently gives the teachers a constructive attitude and approach to individual problems that would otherwise be difficult or impossible. If teachers only know that Pupil A is "rated" very low in honesty and truthfulness, there is usually very little that can be done about it; but if they know that his lies are confined to inventing imaginative excuses for tardiness, and his dishonesty to "losing" library books, there is neither cause for very serious concern, nor lack of promising ways in which to approach the pupil with a view to developing better habits.

The most effective way for gaining an understanding of how the anecdotal method works in practice is to visit the Mechanics Institute. In the brief time at my disposal I cannot present here the full anecdotal record of even one pupil who has graduated at Mechanics Institute. I shall, however, read a few selected excerpts from one pupil's record, to illustrate the character of the anecdotes and the use that was made of them. In considering this illustration, the reader must bear in mind that it is taken from the earliest efforts at Mechanics Institute to develop the anecdotal method, and that even so it does not fairly represent either the method or the Institute, because some of the most interesting and representative cases in the files could not be presented within the limitations of this paper. Some of the anecdotes include inferences as well as concrete observations.

Illustrative anecdotes: Student B.

Background Record. Home: Father in coal business;

[4] In this respect the anecdotal method approaches the "descriptive type" method of Dr. Smith's committee, mentioned in the preceding footnote.

mother at home and ill; big family of brothers and sisters; brought up in coal town—under 10,000 population. Education: High school graduate plus one year night school in college in town where she worked; best work in mathematics, English, and history; excellent high school record. Extra-curricular activities in high school: Dramatics, basket ball, tennis, sketching, writing, Epworth League. Experience (at entrance): One year selling, one year clerical work. References (at entrance): Outstandingly favorable in all respects. Age (at entrance): 20.

Classification Examinations (at entrance): Local percentile ratings were: Army Alpha, 72; A-S Reaction, 96; Mathematics, 75; Reading Speed, 44; Reading Accuracy, 87.

Scholastic Record (at graduation): All finals honor grades except for one normal grade. Cooperative Job (record at graduation): Consistently excellent reports. Extra-curricular activities (at graduation): President of class and editor of school paper.

Comments on First Year (Prior to initiation of anecdotal method): From supervisor: She made very poor first impression because of extreme and shabby attire and vivid make-up. She talked well, however, and showed keen interest. Faculty Summary: H—Honor; D—Diploma; L—Letter.

	February	*June*
Dependability	D	H
Initiative	D	H
Friendliness	D	D
Drive	D	H
Thinking ability	H	D

This is all the information available on Student B at the end of her first year in Mechanics Institute. The anecdotal method was introduced at the beginning of her second year. The following excerpts are only a few of the dozens of illuminating observations recorded during Student B's second year.

Date	*Observer*	*Anecdote Record*
Sept.	Supervisor	Her stunt in the Retailing party was highly original. She is apparently unpopular with members of her own group.
Sept.	Teacher 5	Many mannerisms and not very tactful.

Sept.	Teacher 7	Brings in illustrations of the applications to the job of the principles learned. Completes assignments on time or ahead of time. Does more than is required both in reference reading and in problems.
Nov.	Teacher 9	Monopolizes group discussions.
Dec.	Teacher 8	She tells me that students do not like her. I have tried to explain what I think in her manner antagonizes but I don't get it across as I have similar characteristics.
Jan.	Supervisor	The report from the store about the work was fine. Asked for an interview to talk over way of correcting appearance of artificiality.
Jan.	Teacher 7	On the store trip to select merchandise for the display window she took the lead (in a group of three students) in making requests in each department, in making selections, and in signing for merchandise borrowed. In the actual arrangement of the display windows she stood back in order that other students in the group might have some of the experience in doing this project.
March	Teacher 7	Came to me for additional advice on overcoming characteristics which make students dislike her. She took a difficult assignment in color and design which involved doing a costume analysis and prescription for a class mate who seemed antagonistic to her. She is doing a good job of it.
April	Teacher 7	She gives other students opportunity to discuss and to work out their share of group assignments.
May	Teacher 7	She has been able to make students understand that she is not so much self-centered as ambitious. She has gained their cooperation and confidence.
May	Teacher 8	In the sorority, has become the person (next to the president) to whom people turn for suggestions, assistance, and leadership. This is true of those who at first resented her.

The supervisors' composite summary of the second year's behavior record is as follows: Ambitious, sincere, enthusiastic; high ideals; keen, active mind; recognizes limitations and works on them; high strung emotionally, but does not fly

off at a tangent; sensitive; keen initiative in class discussion; is learning not to monopolize the conversation; has clever ideas which she can execute; has worn down antagonism of classmates by skilful attack on the problem but with no lowering of ideals or quality; unfortunate mannerisms suggest too easy familiarity; needs more quiet dignity; shows care and improving judgment in her efforts; willing to cooperate in every way; applies her studies with unusual skill; has won a real victory in showing that she is not self-centered and that she is fully cooperative; works with unstinted effort; employment record fine.

The third year behavior record includes the following anecdotes:

Date	*Observer*	*Anecdote Record*
Oct.	Teacher 1	Has completely conquered her habit of answering every question. She has an answer ready for every question but never volunteers it until others have had a chance.
Nov.	Supervisor	Came to my house (without previous arrangement); after discussing an assignment, told me that one of the girls had been talking very unpleasantly about her to the other girls. After a long discussion of the problem she agreed to laugh at it, realizing how ridiculous the accusations were. Her attitude when she left seemed healthy and promising.
March	Supervisor	Discussed with me her personal problems, including antagonisms which she arouses and her over-dramatic tendencies. Warned her to watch to avoid impression of artificiality and insincerity; to just tell her story, not to act it.

The supervisors' composite summary of Student B's anecdotal record for her third and final year in Mechanics Institute is as follows: Very cooperative; prepares work consistently and conscientiously; work of steady, superior quality, both in classes and on the job; thinks quickly and deeply; active in discussion; ambitious to get all she can from her work; improving in tact and ease in getting along with people; very practical point of view, sometimes even hard; original and interested in new ideas.

Student B's present job, one year after graduation, is that of assistant to a responsible executive in a large organization. Her work involves responsibilities in several parts of the chain system. She is making a marked success of her work and is well liked.

In reviewing these excerpts from this student's 30-page file of anecdotes, Dr. R. W. Tyler makes the following significant comments:

"Here is a student whose academic ability and scholarship is excellent. Ordinarily, schools would not concern themselves with giving her any particular guidance. Yet her records show that she is hampered greatly in her effectiveness and her happiness by her inability to develop cordial relations with her fellow students. These few quotations from the record merely indicate what is more clearly depicted in the record as a whole. This record, representing as it does the observations of several instructors over a period of time, gives a more accurate picture of this student's problem than any isolated impression of individual instructors. The value of this record in diagnosis is made clear when contrasted with the attempt to rate the student's traits, where each rater attempts to infer traits from a limited segment of experience with the student.

"The continuing record provides opportunity to check and revise the constructive efforts applied to help this student in overcoming her difficulties and to determine their efficacy. The increased effectiveness and happiness of the student, as a result of the long-continued and carefully checked remedial treatment, is clearly suggested by the record."

Another case which illustrates the kind of personal guidance and assistance facilitated by the anecdotal method is that of Student K. In September, 1932, this student entered Mechanics Institute in the Retailing Department. He was 18 years of age and his ranking on the intelligence test fell at the 72nd percentile. All of the information concerning his background was favorable and he had made an acceptable record in his high school work, but had never shown any initiative in either curricular or extra-curricular activities. Upon entrance at the Institute his instructors began making records concerning his behavior of which the following are typical:

September 30	Hasn't volunteered or recited in class in the first two weeks. His notebook work was unusually fine. He had some clippings that were not required, but he has not as yet recited in class.
October 15	Called upon him to discuss a topic but he just sat, making no response at all. Had an unusual test paper—all of the problems well handled.
November 1	Met him in the hall and he didn't speak to me although I spoke to him. Never makes a recitation.
December 3	Missed class three days just prior to Thanksgiving because he had a chance to work. He did not make arrangements in advance concerning this and he was removed from the list of candidates. He seemed heart-broken about this, but had very little comment to make. (March 1—Reinstated because of regularity in attendance.)
January 10	Attended technical society meeting last night, but did not join the discussion afterwards. Never recites in class.

These items taken from the anecdote record indicate a serious personality defect which isolated him from the group. He was almost pathologically shy and reserved, but very capable. The correction of this defect was obviously important for K's future effectiveness and happiness; but in most schools the defect would have been largely ignored and perhaps aggravated. When the supervisor called this boy into the office for a conference on his personal problems there were many fine things for which he could be commended. He was industrious and did good work. He was modest. His work was usually turned in on time, but the supervisor pointed out he was not making himself personally effective with the instructors and the other members of his class by making contributions to the group discussions. The boy admitted that he was very bashful and hesitant about talking in front of groups; that he always had a sinking sensation in the pit of his stomach when he tried to volunteer or speak in front of the group. He recognized clearly the need for more active participation and said that in some cases he missed material because he was

afraid to ask about it. He also expressed the fact that any contact with people was difficult.

The supervisor asked K to make a chart showing every class which he attended, but instead of writing in the names of the classes the squares were left blank. Armed with this document he was asked to make a check-mark in each square for each time that he volunteered in class discussion, and for the first week he was to make a big effort to volunteer at least once in each class. This was made easier by requesting that he prepare especially well some of the topics in each class and when discussions centered on these topics he was to volunteer the additional information which he had worked out. He expressed a good deal of enthusiasm for this kind of procedure, but at the end of the first week his record showed an average of only one recitation for each four class periods. He was praised heartily for this effort by the supervisor and started out the next week with another chart and during that week he brought his average up to one recitation a period. This program was carried out for fifteen weeks and at the end of that time the following anecdotes are recorded concerning his case:

April 11 He made a special report today before the class and did a very excellent job. His thinking was clear and his outline was well prepared. He gave the report with zest and vigor. He is one of the active leaders in group discussion and seems to especially enjoy this part of the work.

At the expiration of fifteen weeks, the supervisor and the boy agreed that it was no longer necessary to keep a chart but that he would make monthly reports to the supervisor concerning his progress.

This is the Mechanics Institute history of a fine student who would have gone through the traditional institution suffering from the feeling that he was incapable of doing satisfactory classroom work and afraid to make suitable contacts with people. He was capable of doing normal work, but was handicapped by a remediable personality defect which was quickly revealed by the anecdote record and which was effectively corrected by the collaboration of teachers who are leaders of youth as well as teachers of subject matter, and

who realize that the continuing study of growing boys and girls is an indispensable obligation and privilege of all educators.

The question naturally arises: Is the anecdotal method generally feasible? Can teachers learn to use it effectively? Is the cost within available financial resources? The answer is in the affirmative for all these questions. In Mechanics Institute the teachers have learned to use the anecdotal method effectively, and have obviously increased the school's service to its pupils without increasing the budget. Not only have these teachers learned to use the anecdotal method effectively, but they have learned its use makes their work more enjoyable and satisfying.[5]

The suggestion which I derive from the experience at Mechanics Institute, and from my observations in other schools, is that teachers can and must cease to be primarily subject matter protagonists and become primarily highly adaptable leaders of the individual children that make up their heterogeneous classes. The emphasis must shift from teaching by teachers to learning by pupils; and in this learning by pupils the emphasis must shift from prescribed curriculum courses and pre-determined subject content to materials and experiences that are appropriate to the interests and life needs of individuals in society. Unless and until the teachers do accept Professor Morrison's sage epigram, both vocational and educational guidance will remain largely the ineffective fifth wheel gesture which, in spite of brilliant exceptions, they have been to date. After several decades of guidance by "guidance officers" it has become clear that guidance cannot be really effective until it is integrated with the normal school routine and is assimilated as one of the most important of the normal functions of the regular teaching staff.

More numerous and more adequately trained guidance

[5] Space limitations alone account for the absence in this paper of reference to the interesting trait analysis method devised by the Progressive Education Association Committee on Records and Reports, under the leadership of Dr. E. R. Smith, Beaver Country Day School, Chestnut Hill, Massachusetts. Those who find the anecdotal method described above of particular interest are invited to read *in toto* the article by President D. A. Robertson in the *Educational Record* Supplement of July, 1928, pp. 53-64.

officers are, to be sure, necessary and indispensable; but their potentialities will remain largely ineffective without the intelligent, heartily sympathetic, and active cooperation of at least a majority of the regular teaching staff.

From the viewpoint of both society and the individual, it is obviously more important what kind of a citizen a pupil becomes than what prescribed "courses" he "passes." Guidance is not merely a technique but a philosophy which must fundamentally permeate every aspect of school life if it is to realize any significant part of its potential contribution to civilization. We have in the past emphasized "the objectives of the school," and have tried to attain them by making mass prescriptions called curricula and standards, and by enforcing them with all the direct and indirect means of coercion available to the schools "within the law." The traditional defense for the prescriptive curriculum is that "children must be socialized." There are certainly many elements common to the abilities, interests and needs of most if not all our children; but this defense has never made it clear just how prescribed courses which regularly "flunk" from 10 to 40 per cent of the pupils "socialize" them, particularly when the great majority of those who "pass" the courses rarely have occasion to use their gleanings from such courses in later life. There is considerable evidence that either flunking students or successfully stuffing them with useless materials (and their alleged "disciplines") tends to make many pupils anti-social in attitude if not in deed, especially when their personal and social problems are neglected in the usual manner. During the last decade it has become increasingly apparent to thoughtful people that, however convenient prescriptive curricula may be to educational administrators (who too frequently assume that "good order" is synonymous with mere uniformity or conformity), the mere inclusion of a "course" in a curriculum is not an adequate justification for asking *all* individual pupils in the school to "take" that course, or to live up to its largely accidental local standards.

Experience has shown that many of the prescribed courses are beyond the intellectual capacity of large fractions of the

school population, alien to the interests of a larger fraction, and irrelevant to the life needs of a still larger fraction. Candor compels us to observe that, however valuable (not to say glorious) some subject matters have been and will continue to be to *some* pupils, it is only too obvious that it would never have occurred to anyone to make some such subjects *universal* requirements except for the anti-social aspects of departmental loyalties, and that such incongruities could not have survived as long as they have except for administrative and social inertia and highly organized academic log-rolling. The point to note here is that constructive and comprehensive guidance is now practically estopped by academic log-rolling, and cannot enjoy full development until the prescriptive curriculum and its arbitrary culture patterns are swept aside both in practice and intent. Guidance leaders and practitioners, like workers in the measurement movement, have been too exclusively absorbed in the technical minutiae of their craft, and have neglected the major strategy, if not the general philosophy, of their profession. Guidance is too much concerned with the very taproot of education to be able to make substantial progress on its technical advances alone. The guidance movement, again like the measurement movement, not only needs perspective itself, but needs to develop that perspective in the administrators and curriculum-makers who dominate our schools, and in the rank and file of teachers who are almost as much victims of inadequate leadership as are the pupils and taxpayers. Not only must the administrators be induced to extirpate unconstructive rules, but the teachers must be induced to place the welfare of the pupil above departmental loyalty. The "objectives of the school" have no defense or validity except as they are compatible with the capacities, interests, and needs of the individual in society. No one has definitely shown that any one of the present required courses is really essential or surely helpful to good citizenship in *all* types of pupils.

The substance of the preceding paragraph is mordantly illustrated by the experience of one college guidance officer who, after an extended study of a student, formulated a pro-

gram which was accepted by the student, but which omitted two courses "required" for the degree. All college officers concerned agreed that this program was better for the student than the "required" program, but the departmental representatives refused to allow the omission of their courses, on the ground that faculty legislation made their "disciplines" essential for the degree. When the matter was referred to the Dean, he summarized by saying to the student: "If you want an education you should take the program you have outlined; if you want a degree you must take these required courses, which are admittedly irrelevant to your purposes: but you cannot get both an education and a degree from this college." Since the degree was prerequisite to entrance to the professional school which the pupil planned to enter, the guidance officer's work went for naught, and the student's record showed C-course grades for 12 "points" although his grades in the other 116 points required for the degree were in no case lower than B+.

To repeat, guidance cannot realize its full potentialities until (1) a greater share of the educational budget is allotted to its functions, and (2) a majority of administrators and teachers genuinely accept, with both mind and heart, the theory that the welfare of the individual pupil in society is paramount to both departmental loyalty and curricular pattern. These two changes cannot be made by purely technical advances. The guidance leaders must turn their attention to the philosophy, administration, finance, teacher-training, and curriculum-making forces in our schools, as well as continue their work of technical research and self-education. Self-education is essential, but insufficient. It is only too obvious that constructive, systematic long-term guidance cannot become a reality unless active and hearty cooperation of the majority of school officers and teachers replaces their present attitude, which is frequently one of active opposition, and almost never better than indifferent tolerance based on lack of understanding. In other words, one of the indispensable prerequisites to the realization of guidance potentialities is to convert Professor Morrison's exhortation into a description: Teachers

(should) spend half their time studying their pupils as individuals, and the rest of their time doing what that study shows to be desirable and necessary.

This reorientation of teachers and school officers cannot be done by the teacher-training institutions alone, for at least two reasons. First, the majority of these institutions are themselves apparently committed to the prescriptive curriculum as an administrative and financial necessity, if not to a disciplinary and compulsive theory of education. Second, only a fraction of the teachers in service (now and for some years to come) expose themselves to the direct influence of the teacher-training institutions. The immediate need, therefore, is the double one of discovering some effective way of reorienting teachers in service, and of giving guidance a sound philosophical, administrative, and financial foundation in our teacher training institutions. To be effective, guidance must become, at least in its fundamental philosophy and broad administrative implications, the corner-stone of the professional education of teachers, rather than a technical specialty to which only a small fraction of teachers-in-training (prospective advisers, deans-of-students, etc.) are normally exposed.

If the doctrine that publicly supported institutions were established and are maintained for the benefit of *all* the children of *all* the people is accepted, it is obvious that there is no logical defense for curricula and administrative policies and school procedures that regularly result in the official "failure" of 10 to 40 per cent of our children. Curricula are still being formulated by committees whose members know in advance that they will be "failed" by large fractions of the school population; these curricula are being prescribed by superintendents and "taught" by teachers who share the knowledge of the curriculum committees. The taxpayers are beginning to see that foredooming pupils to failure is not tending to "socialize" them; they are beginning to realize that the obligation of the schools to meet the needs of the "failing quarter" of the school population is just as great as their obligation to provide a curriculum which can be "passed" by the "upper three-quarters." The schools can no longer be run for the

convenience of administrative routine, or in accordance with the *ex cathedra* dispensations of curriculum committees which still are continuing to emit uniform prescriptions for heterogeneous masses of children.

There is no way of meeting the needs of individual pupils without first ascertaining what those needs are. Thus curriculum making and individual guidance are inseparable. Broad curriculum outlines and descriptions of desirable objectives have a value, not as specific goals to be sought by or for *all* pupils, nor as standards to be enforced at all costs, but as *general* guides for the ultimate curriculum-maker—the teacher who comes into actual contact with the individual pupil. In the ideal school, curriculum-making will become a process of formulating individual goals, and progressively modifying them in accordance with the developing capacities, interests, and needs of individual pupils. This process will be a continuous cycle of (1) learning the capacities, interests, and needs of the individual pupil, (2) setting up provisional goals, (3) getting the student to accept those goals at least provisionally, (4) helping the student to attain those goals by teaching when necessary, or by refraining from teaching whenever possible, (5) studying the progress made, with a readiness to modify the goals if necessary. This process is needed now and will be more crucially needed in the future, because children are staying in school longer and longer, with the result that the variability of interests and needs of individuals in our school population is increasing. An indispensable instrumentality for this process is the cumulative record of comparable measures, personal and social data, and teachers' observations, such as that recommended by the American Council on Education.

This process does not mean a surrender to the laziness or irresponsible whims of pupils. The purpose is not to decrease the control of the child by the school, but rather to make that control more intelligent and more effective. When teachers waste less time on teaching and "class-keeping" rituals which are admittedly futile for large fractions of our school population, when they give more time to studying children as in-

dividuals, in the light of comprehensive cumulative records that are systematically kept up-to-date, there is every reason for believing that school control will be both more effective and more constructive. When children begin to realize that their teachers are not merely policemen whose paramount duty is to "put over" prescribed courses which are irrelevant, or to enforce standards which are impossible, but are devoted to helping them become better and happier citizens by meeting their needs whatever their needs happen to be, there will be fewer temptations for children to develop protective coloring in the form of the many anti-social and negative attitudes and habits which now too frequently constitute the chief contribution of the school to some of our children. Unless the guidance and measurement movements help to bring about this change in the attitudes of both teachers and pupils, both movements will have failed in their first opportunity and basic obligation to society.

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Conference on Emotion

WHAT consideration shall be given to emotion in the educative process? Is it the business of education to eliminate, to develop, or to control emotion? Is the environment set up by the school adapted to the most wholesome emotional growth, or does a race, bred in the scholastic cultural medium, eventually yield to a race bred in a culture offering sounder emotional development? Do knowledge and desire grow *pari passu,* or in inverse ratio? Has education, as such, any concern with the direction and strength of desire at the completion of the educational regime or only with the knowledge and skills attained? Does the emotional development of youth belong to some other agent of society than the school—the radio, the movie, the drama, the black or brown shirt, the family, the church? If so, how shall the time of youth be allotted as between these agencies? If nursery schools educate the whole child and universities concern themselves only with the creation and sharing of knowledge, does the individual or society as organized outside the university system come to assume provision for the cultural medium in which the emotional life is to live, and at what stages of the process, and in what proportions? Is a supreme desire or dominant loyalty essential to the unity and healthy functioning of a planned civilization? If so, whence is it to be derived? Shall it be the greatest common divisor of humanity's emotional life determined on the democratic principle—the desire shared by the greatest number—or in what soil is the hierarchy of loyalties rooted?

These questions, and others even more searching, spring up throughout the educational world as soon as one says, as the Superintendent of the great New York City school system said the other day, "We teach the child, not subjects." Subjects, even the most abstruse, are simple things compared to children. We can define, and accordingly exclude as we will, when we deal with subjects, but it is not so easy when we deal with living organisms. A civilization can go along for fifty

or a hundred years acting on its definition "man is mind," ordering the school system accordingly; but a world war, or a revolution, a crusade of fools, or an incursion of Goths, an increasing cult of nationalism, will suddenly make it plain to the blindest that the definition is only a definition and a poor one at that, because it pictures only one aspect of the reality. A university president may mark off the realm of knowledge as the sphere of the university and warn his staff to stay on the reservation, and then, finding the reservation too tame for himself, spend most of his time in that realm of human passions known as politics. When a group of our most intelligent youth were asked last winter what aspect of life they found themselves least prepared for by a liberal education, the common answer was, the strength and direction of desires in the average man and woman.

In the overhauling of accounts which has been taking place the last year or two the American people have discovered that the cost of schools is not being met out of the savings on jails, asylums, and almshouses, as Horace Mann promised, and they are asking in the simplest terms, is the product of the school good?

These questions as well as innate intellectual curiosity led the American Council on Education to set up an exploratory committee of seven on the Relation of Emotions to the Educative Process. Funds were provided by the Josiah Macy, Junior, Foundation, for a two-year study, and the committee organized with Professor Daniel A. Prescott of Rutgers University as chairman and Professor Frederick H. Lund of Temple University as secretary. A few months work was sufficient to make it evident that here was a vast field almost untouched by human exploration, with outcroppings of ore that would well repay intensive application. Accordingly, arrangements have been made for the chairman to secure leave of absence from his university for six months beginning in February, 1935, so that he may devote his entire time to formulating the report of the committee. In order, further, that the committee might have the help of experts in special portions of the field, a four-day conference was arranged through the

courtesy of Dr. Ludwig Kast and the Josiah Macy, Junior, Foundation, to be held at the Malvern Hotel, Bar Harbor, August 23-26, and sixteen specialists sat with six of the committee to canvass certain aspects of the problem more in detail.

The conference was divided into eight sessions, each session lasting from two and a half to three and a half hours. The first hour of each session was devoted to a presentation of the problem by a leader chosen in advance, this being followed by general discussion in which the twenty-two members of the conference were all free to participate. In this way the following topics were considered:

I. The Physiological Bases of Emotion. Dr. Walter B. Cannon, Harvard University, leader.

II. The Influence of Emotion upon Intellectual Processes—Learning, Reasoning, Imagining. Dr. F. L. Wells, Boston Psychopathic Hospital, leader.

III. The Emotional Orientations of Children and How They May Be Evaluated—Emotional Appetites, Enthusiasms and Purposes. Dr. George D. Stoddard, University of Iowa, leader.

IV. Emotion and Sex. Dr. L. K. Frank, General Education Board, leader.

V. Emotional Tensions and Personality Maladjustments in Children and Young People. What Is "Emotional Maturity?" Dr. David M. Levy, New York City, leader.

VI. The Emotional Climate of Schools as Influenced by the Interplay of Personalities. Dr. Mark May, Institute of Human Relations, Yale University, leader.

VII. The Emotional Climate of Schools as Influenced by the Nature of Educational Tasks and by School Practices. Dr. Laura Zirbes, Ohio State University, leader.

VIII. Emotion and Aesthetic Experience and Expression. Dr. Thomas Munro, Curator of Education of the Cleveland Art Museum and Head of the Department of Art, Western Reserve University, leader.

One of the first results of the conference was to make it evident that the term "emotion" had different meanings for different members of the group. To some the term should be reserved for the crude emotions—hate, fear, anger—emotions accompanied by or composed of visceral changes and re-

actions. To others "emotion" appears to be the only available term comprehensive enough to include all non-intellectual aspects of conscious life. Still others would not distinguish two or three categories—knowing, feeling, desire—but would regard emotional tone as an inseparable quality of all conscious life; not a separate road on the map but the varying color of the road map—the yellow, blue, red, of the one road at varying points. Desire, it was agreed, was one kind of emotion, but whether so feeble a desire as the intellectual interest of a college student was robust enough to be classified as emotion was questioned.

It was evident from the discussion that, while emotion is not a good term for the purpose, there is no better, and that unless the committee were willing to content itself with a negative term such as "non-intellectual"—or create a new term of its own—it could not do better than to continue to use "emotion" which, however unsatisfactory to physiologist, psychologist, and psychiatrist in its finer discriminations, would be, on the whole, not misleading to the man on the street.

The second fact that emerged was the exceeding poverty of our present knowledge of the physiology of emotion, even with a recognized expert like Dr. Cannon on hand to answer questions. It is indeed a slender base on which to build any scientific structure with educational implications. Evidently the teacher will continue to drive with sealed hood for years to come. Normal psychology should join its plea to that of abnormal psychology for greatly increased research and experimentation in this field. The thalamic region as the center of physiological change in emotion and the cortex as the center of control, both to repress and to stimulate, are identified, but relatively little is known of their mutual interaction.

Dr. Wells discussed especially the emotion-producing situation, pointing out that emotion is a function of personality adjustment in terms of either frustration or of opportunity, but more generally of frustration. He emphasized the fact that emotions must be studied in reference to situations rather than in reference to single stimuli. The emotion-producing situation is accompanied by certain phenomena in both the

intellectual and motor spheres. In the opinion of Dr. Wells we have been trying to push experimental techniques too fast, and progress would have been sounder if we had been willing to stay longer on the clinical level. To be effective research in this field must cover longer periods than are usually represented in the material available to the individual graduate school.

Dr. Frank discussed the subject of "Sex and Emotion" from the cultural and intellectual viewpoint. He pointed out that culture patterns invade the organism, or are interposed between it and the world of things and persons, and these culture patterns dictate what, when and how organisms and the organisms' physiological processes may function. Education as the servant of culture tries to make individuals conform to social patterns. Individuals resent this. Now that so much is known of sex and so much has been gained in the way of physiological control, what interpretations of sex and its functions can we formulate that will serve as helpful social patterns in the development of personalities? Can we do something to promote the thinking of sex as a way of life, as a way of enriching life, instead of as individual gratification? How shall our patterns for masculine and feminine achievement be differentiated? What is the value to be attached to chastity? Can the creative impulse which manifests itself in the cruder forms of sex expression be led off into forms of creative adventure socially more timely or valuable?

Dr. Stoddard in his discussion of the emotional orientation of children warned of the difficulty of objective observations because of the adult tendency to read into children's emotional experiences more than may exist. He pointed out that emotional responses of new-born infants to types of stimuli employed had been shown to be largely undifferentiated. His paper provoked a general discussion of aggressiveness and submissiveness and social patterns in teachers and children, and whether education could be consciously directed toward the curbing of aggressiveness or the curing of over-submissiveness, and if so whether it would be desirable to attempt it. The possibility of developing an emotional maturity rating

scale was discussed. Dr. Stoddard pointed out how because of failure adequately to appraise the place of emotion in the child's life, the school plant is so arranged as to demand quiet, sitting still, little social intercourse. Intellect is placed on the throne and a taboo declared on children's likes and dislikes. Emotions are still active in civilized life but usually attached to the wrong objects, i.e., tigers and snakes instead of automobiles and microbes. Hence it is one of the big tasks of education to reorient the emotions, not by destroying emotion but by switching fear from tiger to automobile, from snake to microbe, so that constructive dreads will be socially helpful. Also general cultural improvement should make the intellectual in school coordinate with feelings and emotions, rather than supreme, and ambitions, hates and fears should be reduced by dethroning the competitive spirit in home, business and school.

Dr. May compared the child in the educational process to an organism growing in a culture after the analogy of a bacterial organism growing in what bacteriologists call a culture medium. The type of organism developed depends on the biological species of the organism, and upon the culture medium in which they are planted. The culture in which the child grows consists not only of what is immediately given, but includes the cultural road to past memories, customs, etc. The organism as it develops in the medium develops both a protective mechanism against the culture to keep out stimuli which are unpleasant and also the power to act selectively. Culture is transmitted to the growing organisms through the medium of person to person relations. Fundamental urges may assume different patterns according to the different cultures in which they function. While these culture patterns are laid down for all there are some who are such biological departures from the norm that they "just can't take it." Then you have conflicts and regressions and in extreme cases the creation by the organism of patterns of its own, as in the case of dementia praecox. As this process of transmitting goes on there are several types of reaction: there are insights on the intellectual level, and there are affective reactions (how he feels about what he sees).

Some transmitters of culture do a very much better job than others. One of the points of further investigation which might be pursued with very great profit would be to make a study of the emotional culture which we by our educational process do lay down. Without more definite specifications from the culture itself our educational process cannot attempt to lay down in the growing organism cultural patterns in respect to emotional expression. If one looks at the school as a constellation of human relations the things you want to look out for are the interplay of personalities which constitute the school. This has not been done and this is where the focus of attention in the study of emotions should lie. The real vital issues of life are vital because they are emotionally charged. The personality of the teacher is a large factor in the classroom. A classroom may be emotionally integrated or it may be disintegrated and cross currents much in evidence. Emotional factors may play as large a part in the child's reaction to any subject of instruction as the nature of the subject matter itself.

In the discussion of Dr. May's notable presentation, Professor Stoddard pointed out that if schools were to consider emotional reactions to instruction it would be necessary to take account of new variations since the sexes vary more emotionally than they do intellectually. It was also suggested that recognition must be accorded to the reality of spiritual drives and inspiration. Finally the question was raised to what quarter should we look for the cultural pattern of human relationships to be applied to any given biological strain, and how in the selection of teachers can there come a break in the vicious circle that like begets like.

Dr. Levy described from the rich case material of his personal practise as a psychiatrist, interesting examples of certain emotional types, particularly the over-protected child, the product of sibling rivalry, and other personalities warped or strongly modified on the emotional side toward irresponsibility or rebellious antagonism. He stated that the psychiatrist was not anxious to make teachers embryo psychiatrists, but did wish to make them human beings; to make them realize that

the behavior of children has a cause, and that in many cases the cause is to be found in certain emotional difficulties.

Dr. Munro in his discussion of Emotion and Aesthetic Experience and Expression opened up a field yet little explored and offered many stimulating suggestions. We all feel vaguely but strongly that in the realm of aesthetic feeling we will find many values which are accepted as the highest values of experience. Aesthetic experience operates to enrich and harmonize all the rest of life, besides being something worth while in itself. The study of aesthetic phenomena is just emerging from the metaphysical and literary stage toward the scientific, but has not reached it. Aesthetic experience can be achieved in all subjects, aesthetic or not. Teachers of economics, mathematics, etc., can bring out aesthetic aspects of these subjects. Art is or should be potentially the best place to develop aesthetic forms. You cannot aim directly at cultivating aesthetic emotion in students. You can arrange situations and habits so that this general functioning tends to bring out the kind of emotional experience which you want. Some claim aesthetic experience is a special and unique kind of emotion. The trend, however, is to regard it not as distinct but as a transformation of ordinary emotion. Emotion so directed toward expressive objects usually becomes milder than emotions of everyday life. The function of an art object, as, in some way a focus of attitudes, and as a stimulus of behavior, should be studied.

Dr. Zirbes discussed the emotional climates of schools as influenced by the nature of educational tasks, and emphasized the importance of setting up some values and objectives toward which we want to steer, and then creating institutions and practices which will produce what we desire, rather than always attempting to patch up the old machine for new purposes. If we are concerned about the effect of the present school set-up on the child's emotional life and his attitudes toward experiences we shall probably discover that not improvement or amendment of the school system is needed but complete revolution—construction of a curriculum from an entirely new point of view and with reference to totally differ-

ent criteria. We must make studies of emotions and the way the changing tasks affect the teacher's attitudes and her functioning. The thing we need to face is the fact that we now have the basis to proceed creatively in education. The prerequisites seem to be available and if we don't move now we are going to miss an opportunity to contribute to an emergent evolution. We need definite changes in our school program. We need fewer fixed appointments. We need longer periods of time in which to live. A great many children's whole emotional development is estopped by the fact that they are instructed in things in which they should be guided through long periods and years. If we direct scholastic attention toward emotion it is not that we want to dissect and dry it for the school's intellectual bill of fare, but in order that we may fence off a place for it in life against intellectual encroachment, room to be, to breathe, to expand, to reach down as far as it will into the depths, and to stretch up as far as it will toward the stars.

No resolutions were drafted by the conference nor was any complete official record kept of the proceedings. As Dr. Prescott said in opening the conference, the committee was in search of leads. It does not expect itself to reach any final answer to the questions it may raise, except to say definitely that here are questions the answers to which would be worth while if they could be found, and to point out the paths of experiment that may reasonably be expected to lead to solutions. The committee will have achieved its purpose if it is able to persuade the school world to look at itself from outside without preconception, and to ask is the artificial environment which we school men have provided for the growing organism of the child the culture which grows the kind of organism we most desire? Must the test-tube always be shaped like a finger? Is it worth while to carry the art of teaching to such a measure of success that you can even teach the horse to eat sawdust, if having learned, the horse dies? Are perhaps some of the elements of wholesome life to be found in emotion and not all in the intellectual processes?

Four days of ideal weather contributed to the enjoyment

of the Foundation's guests, and made possible a motor trip to the top of Green Mountain, a launch trip to Somes Sound, luncheon at Jordan's Pond, golf and swimming, all provided through the courtesy of Mrs. Walter G. Ladd. An opportunity to meet the summer colony was afforded at a tea given for the conference by Mrs. Dave Hennen Morris at her residence "Bogue Chitto" on Frenchman's Bay. Ambassador Morris, Chairman of the Board of the Macy Foundation, who had hoped to be present at the conference, was unexpectedly called away, to the regret of all, by official duties in connection with the death of Ambassador May.

Those participating in the conference, in addition to the eight leaders already named, were: President James R. Angell, Yale University; Professor Madison Bentley, Cornell University; Miss Marian Carswell, Principal, Hubbard Woods School, Winnetka, Illinois; Dr. Ludwig Kast, President, Josiah Macy, Junior, Foundation; Dr. Clarence C. Little, Jackson Research Laboratory, Bar Harbor; Dr. Charles Riborg Mann, Director, American Council on Education; Professor Herbert N. Shenton, Syracuse University; Dr. Samuel Trexler, Trustee, Macy Foundation; and six members of the American Council's Committee: Dr. Daniel A. Prescott, Rutgers University, Chairman; Dr. Frederick H. Lund, Temple University, Secretary; Dr. John H. MacCracken, Associate Director, American Council on Education; Dr. James Stuart Plant, Director, Essex County Juvenile Clinic, Newark, New Jersey; Dr. Vivian T. Thayer, Director, Ethical Culture Schools, New York City; Dr. M. Ernest Townsend, Principal, New Jersey State Normal School, Newark, New Jersey.

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The Training of Secondary School Teachers in England

WRITERS who believe that all improvements in education are absolutely dependent upon strong centralized authority and upon uniform laws and regulations tend to underestimate the work which has been done in England for the professional preparation of teachers in the secondary schools. Until 1902 there was in England no official recognition of the principle that secondary education is any concern of the state, and there was no possibility that the central government might direct or aid secondary education as such. Even now there are neither uniform requirements as to academic or professional training, which must be met by all teachers in secondary schools, nor any central authority to make or enforce such requirements. Nevertheless, a study of the development of English secondary schools in the last forty years shows that there has been a slow but definite increase in the number of secondary school teachers to receive professional training and that the nature of this training has been much influenced by certain decisions of the Board of Education.

When this Board was first established in 1899 it was given no authority over secondary schools but it has gradually acquired a strong influence over most of the secondary schools in England. It could not have been given direct authority over the secondary schools, because there has never been in England any system of secondary schools such as is found in Germany and in France. English secondary schools are entirely independent organizations managed by governing bodies of many different kinds, such as churches and other religious groups, by boards descended from old trade guilds, by trustees of private endowments, by individuals operating schools for private gain, together with various borough, county, and municipal authorities. Therefore, the only right the newly established Board of Education was given in re-

spect to secondary schools was the power to inspect every school that asked for their inspection. This might have been an empty right if the Board had not been given charge of those grants which since 1889 had been paid for instruction in science and art and if it had not specified that it would in the future give these grants to no schools which had not been inspected and recognized as efficient. When in 1902 the Board was empowered to give these grants not merely for instruction in science and art but also for secondary education as such, it thus acquired more influence over secondary education as a whole. With increasing amounts of money available for distribution, the number of schools it inspected and aided grew from year to year, as can be seen by examining the first three (3) columns of Table I. Thus, although the central educational organization in England had no authority to lay down regulations binding on all secondary schools, it was able to decide that certain conditions must be fulfilled by all schools that received government grants and was able to withhold grants from schools that did not meet these conditions. Also, the Board gradually came to have some influence even over schools not eligible for government grants; as early as 1906 it decided to publish at appropriate intervals a list of recognized secondary schools, to inspect without charge any school desiring such inspection, and to include on its list of efficient schools the ones it considered worthy of recognition. A glance at the last two columns of Table I will show that there has been a steadily growing number of secondary schools not receiving grants which have asked for the Board's inspection and have been recognized as efficient.

As soon as the inspectors began to examine secondary schools, they began to comment on the quality of teaching they found and on the necessity of improving this teaching. The Board's report for 1905-6 contained extracts from the reports of several inspectors deploring the poor teaching found in many schools, praising the excellent teaching found in a few places, and ending with this significant comment: "From these facts respecting the various types of Public Secondary Schools, and by the testimony of all the most com-

TABLE I

Figures with regard to grant-aided secondary schools in England and also with regard to schools recognized after full inspection as efficient in their staff, courses of instruction, premises and equipment.

Year	Number of grant-aided schools	Number of pupils in grant-aided schools	Total number of schools recognized as efficient, grant-aided and without grants	Total number of pupils in efficient schools, grant-aided and without grants
1904–5	491	85,358		
1905–6	600	105,034		
1906–7	677	115,744		
1907–8	737	124,588		
1908–9	804	135,776	886	149,978
1909–10	841	141,558	928	157,022
1910–11	862	145,884	958	163,496
1911–12	885	151,045	986	169,822
1912–13	898	158,832	1,008	179,058
1913–14	910	170,119	1,027	192,257
1914–15	929	180,507	1,054	203,540
1915–16	931	189,487	1,056	214,192 (only estimates)
1916–17	931	198,759	1,056	224,095 (only estimates)
1917–18	943	216,765	1,073	242,024
1918–19	961	245,993	1,095	273,393
1919–20	1,021	282,005	1,222	318,276
1920–21	1,076	311,758	1,328	356,637
1921–22	1,115	330,472	1,407	381,458
1922–23	1,129	331,820	1,450	385,515
1923–24	1,137	327,601	1,481	384,793
1924–25	1,145	327,848	1,509	386,923
1925–26	1,161	328,074	1,555	391,351
1926–27	1,177	337,421	1,590	403,092
1927–28	1,187	342,957	1,622	412,542
1928–29	1,198	351,112	1,646	422,111
1929–30	1,208	356,742	1,736	433,627
1930–31	1,218	371,302	1,785	449,967
1931–32	1,228	389,525	1,848	470,805
1932–33	1,226	398,165	1,869	481,102

petent judges, it is clear that *an improved standard of teaching power* in secondary schools is at the root of all improvements and developments." [1] As a practical step toward this desired improvement in teaching the Board decided in this

[1] P. 59, Board of Education Report, 1905-6. (Italics are in the report.)

same year to give certain grants to help pay the expenses of students taking recognized professional courses for the training of teachers.

There was at that time the greatest variety of arrangements for the training of teachers in the secondary schools. There had been a Teacher's Training Syndicate in Cambridge since 1879, and Oxford had established a diploma in the theory, history, and practice of education in 1896. In addition there were secondary training departments in more than twenty universities and university colleges. There were also many other organizations besides universities engaged in training students, more particularly women students, to teach in the secondary schools. Cheltenham Ladies' College and the Maria Grey Training College had departments for the training of secondary teachers, which were at least as old as the one at Cambridge. Various denominational schools and colleges had long been engaged in the training of teachers for higher than elementary education, and other types of high schools and secondary schools had developed secondary training departments. Some of this training seems to have been a judicious mixture of theory and practice; some of it was entirely theoretical with no attempt to give the student any experience in actual teaching; some of it seems to have been nothing more than a system of apprenticeship, and apprenticeship at a rather low level. Also, although there were so many different varieties of training institutions, the number of their students was so small that the majority of teachers in the secondary schools had received no professional training whatsoever.

Although the Board of Education had no authority over any of these organizations training secondary teachers, its members and inspectors had some very definite opinions about this type of professional training. They were very uncertain as to the value of the courses that had been established; they were certain that the most pressing need of the secondary schools was the need for better teaching, but they were by no means sure that the courses of training being offered would supply this need. They were particularly troubled by three

dangers in professional training: (1) That time for such training might be taken out of the regular university course, whereas the entire time of the secondary and university courses was needed to produce the mastery of subject matter essential to a secondary school teacher; (2) that such professional training might be given too early, given to students who had no practical experience in teaching, knew nothing of its problems and difficulties, and were therefore unable to understand or apply the principles taught them in lectures on educational theory; and (3) that the training might be too general and too vague to be of any real use. Many expressed the opinion that professional training in education should consist largely in the study of the methods of teaching one or two subjects in which the student was already reasonably well grounded, and that this instruction should be accompanied by observation of other teachers' methods and by considerable practice in teaching both under observation and under normal conditions.

Since most of the educational authorities felt uncertain about the value of the training being offered for secondary teachers, it may seem strange that the Board of Education should have decided to use part of its very limited educational appropriation for grants in behalf of students undertaking such training, but it certainly was natural that it should attempt to guard against these recognized difficulties. Because the Board had no authority over teacher-training institutions, it proceeded very much as it had done in the case of the secondary schools themselves, by setting up a list of requirements that must be met by any training institution in order to receive grants for its students and also by drawing up a list of recognized institutions including all those doing efficient work according to its standards, even those on technical grounds unable to receive grants from the public funds.

It is interesting to examine these first regulations for secondary-training institutions which were to receive grants or to be placed on the list of recognized institutions, in order to see how they influenced the development of secondary training and managed to guard against the dangers mentioned above.

Some of the institutions existing at that time admitted only university graduates to their professional course, some of them combined the professional work with the work for the university degree, and some gave this professional training to students who had done little, if any, academic work beyond secondary school level. The Board required that any student who was to receive a government grant must either possess a university degree or some certificate equivalent to a university degree, such as the certificates given to women by both Cambridge and Oxford at that time for the same achievements that would entitle a man to a degree. It is at least partly the result of this requirement that preparation for secondary teaching in England is now practically confined to graduate work. Although university undergraduates may and do take education as a subsidiary subject, studying the history and philosophy of education or educational psychology just as they would study the history of art or animal psychology, the students in the professional training courses are, with certain exceptions, university graduates and usually have taken their degrees with honors. It is emphatically true that in England the professional training of secondary teachers has not been purchased at the price of reducing the time given to the mastery of the subject to be taught. To guard against the danger that the training might be given to students who knew little or nothing of the practical problems of teaching and could therefore neither understand nor apply the theories they learned in lectures, the Board provided that every plan of training that was to be aided by government grants must include at least sixty days of actual school experience, at least two-thirds of which must be in a secondary school. This regulation evidently caused more difficulty than any other, and there were many protests against it. Many institutions that had undertaken to train secondary teachers stated that it was impossible for them to provide for that much practice in secondary schools, either because they were situated in such small towns that the few secondary schools available would be injured by the presence of large groups of practice students or else because the good secondary schools in the vicinity re-

fused to allow inexperienced graduates to practice on their pupils. Also some university professors objected to this ruling, because they were themselves more interested in erudite educational research than they were in simple problems of classroom teaching and therefore wished this whole graduate year to be spent on scholarly research. The members of the Board, however, insisted firmly that educational theory divorced from any opportunity to apply it in the classroom was sure to seem unreal and even unintelligible to the young student, was of little help in making him a satisfactory teacher, and should not, therefore, be subsidized from the public funds. Gradually institution after institution found it possible to make arrangements for some secondary schools to give this school experience until now the long practice period has come to be accepted as a necessary part of any professional training. Another regulation, which the Board made for the purpose of obtaining professional training to apply closely to the practical problems of the classroom and to help the young graduates to become better teachers, was the requirement that at least half of the staff of a school to be ranked as efficient should have been for a reasonable time successful teachers in secondary schools. All of the professors and tutors whom I met in training departments had taught for years in secondary schools, and the effect of this experience was marked. Never have I heard lectures in education more practical or more richly illustrated with concrete applications and with personal experiences. In his farewell address to the graduating students of the Institute of Education of London University, Sir Percy Nunn spoke vividly of his own experiences as a secondary school master and urged that education is primarily an affair between teacher and pupils, and that it is only secondarily an affair of educational statistics and psychological experiments. Also, because the heads of the training departments, the professors, and the tutors are all experienced teachers, they often give demonstration lessons, where they teach secondary school classes, then dismiss the pupils and proceed to analyze and discuss the lesson with the students in training. I saw the head of the education depart-

ment in the university college of Southampton teach a simple poem to a group of twelve year old children so sympathetically that after the first five minutes they seemed utterly unconscious of the large group of adults watching the performance and so vividly that the words of that poem still ring in my own ears. The head of one training department told me of an experiment he had been carrying out that year teaching mathematics to a class of elementary school boys, dull and retarded, in which he had not only planned with their regular teacher some very original work but also had done much of the teaching himself. Teachers who have thus kept themselves in constant touch with the secondary school are far better fitted to help students to become effective teachers than are men who have done scholarly work in statistical or experimental research but who for many years have not taught or, in some cases, have never taught classes in a secondary school.

The Board of Education drew up its first list of efficient training institutions and paid its first grants in behalf of students in the year 1907-8. As can be seen in Table II only seventeen institutions met all of the requirements of the Board so that they could be recognized as efficient, four of these could not receive grants because of their insufficiency of students, and three of them because they put religious restrictions upon their students or teachers. The Board paid just under £1,900 to ten training institutions, of which five formed part of a university or of a university college. In these seventeen institutions only fifteen men and one hundred and fifty-six women were trained in the year 1907-8. When we realize that there were at that time more than 9,000 teachers in these secondary schools on the Board's efficient list, we see how tiny a proportion of these teachers could have had specific professional preparation for secondary work. An examination of Table II will show that these numbers increased very slowly until 1914, that there was a very great decrease in numbers during the war years, and that after 1920 the numbers have increased very rapidly, more than doubling in the two years from 1920 to 1922 and almost

TABLE II

Figures with regard to institutions recognized as efficient for the training of secondary teachers and the number of students who completed courses of training in these institutions. (The last column states the number of students who completed a course of training which centered in the secondary school as explained on pages 464-465.)

Year	Number of institutions recognized	Number of institutions receiving grants	Number of students who completed training in recognized institutions		Total	Students taking training which centers in the secondary school
			Men	*Women*		
1907–8	17	10	15	156	171	
1908–9	18	13	23	176	199	
1909–10	19	12	35	139	174	
1910–11	20	12	30	133	163	
1911–12	20		43	156	199	
1912–13	19	13	38	178	216	
1913–14	21	14	38	167	205	
1914–15	21		25	182	237	2
1915–16			11	203	214	
1916–17	18		2	125	127	1
1917–18	18		4	108	112	2
1918–19	19		11	115	126	2
1919–20	20		43	160	203	
1920–21	22		78	180	258	
1921–22	22		220	265	485	2
1922–23	25		342	325	667	3
1923–24	25		263	386	649	3
1924–25	26		299	509	808	7
1925–26[1]			354	563	917	
1926–27[1]			600	934	1,534	
1927–28[1]			621	960	1,581	
1928–29[1]			647	1,015	1,662	
1929–30[1]			700	1,046	1,746	
1930–31[1]			870	1,143	2,013	
1931–32[1]			1,010	1,069	2,079	
1932–33[1]						

[1] Since 1926 the regulations of the Board of Education have provided that any student who has completed a course for secondary teachers shall also be certificated as an elementary teacher. This regulation makes it difficult to compare statistics before and after 1926. The numbers of students given in Table II for the years 1926–33 include only students who have taken professional post-graduate courses in addition to their university courses, and are therefore prepared to teach in secondary schools.

doubling again in the four years from 1922 to 1926. It will also be seen that the Board has been very cautious about recognizing new institutions for training, never recognizing more

than three new ones in any year, and that in every year but one, there have been far more women than men who completed these training courses, a very significant fact in England, where there are more men than women teaching in the secondary schools. It is rather difficult to compare the figures before and after 1926 because in that year the Board of Education made the ruling that all students who have completed courses of training for secondary schools may be certificated as elementary teachers and therefore the reports since 1926 make no specific distinction between elementary and secondary training. I have included in the statements in Table II for the years 1926-27 only university graduates who had taken a professional post-graduate course in addition to their university courses, and were therefore prepared to teach in secondary schools.

The greatest change that has been made in the Board's regulations for the training of teachers was made in 1913 when, in addition to the method of training described above pivoting on a university or university college, an alternative form of training was introduced pivoting on the secondary school giving the teaching experience. Although very few students have ever been trained under this alternative plan, it seems wise to discuss it because of the light thrown on the attitude of the Board toward experimentation and toward the free development of individual initiative. It shows clearly that the Board not only lacked the power to build up a uniform and closely organized system of training for secondary work, but that it definitely desired to support various lines of endeavor and to avoid any standardization. The report for 1912-3 discussed fully the claim that the training of secondary teachers should be carried out by the secondary schools themselves rather than by universities and university colleges using secondary schools as their laboratories. In its report the Board compared the advantages and disadvantages of the proposed plan with those of the one already in operation, and it distinctly stated that it was not convinced that one of these methods was any better than the other, that the present method was failing to attract as many intending teachers as

were needed and, particularly, was failing to attract as many men teachers as was desirable. Therefore the Board decided not only to recognize this alternative method but also to support it by grants. Under the first plan the Board had paid grants to no institution with less than ten students, and then it paid at the rate of £18 per student. Realizing that the second plan could not be aided in this way since few secondary schools could care for as many as ten practice students, the Board offered to pay a grant of £40 for the first student, £30 for the second, and £20 for the third. It stipulated that the students must have degrees in honors, and that they must spend an entire year in one secondary school, half in observation and teaching and the other half in a systematic study of the principles of teaching. It ruled that the secondary school must be approved by the Board for this purpose, and that the plans made by the school for providing a systematic course in the practice and principles of teaching must also be approved. The next year it received applications from six secondary schools to have these teachers in training, and it approved of four, but, as can be seen by Table II, only two students completed their training in this way in 1914-5, none at all the next year, only one in 1916-7, and never more than three until 1924-5 when there were seven students who completed their work in this manner. After 1926 I found no reports which separated this method of training from the more popular method centering in a university or university college.

Since the Board of Education has thus favored experimentation, it is natural that there should be only a few uniform factors present in all the systems of professional training for secondary teachers and that in all other respects there should be the greatest variety. All of the institutions I visited or heard described planned one year of professional work for university graduates; all of them provided for at least sixty days teaching experience in a secondary school where the student was required to teach from one to three times a day, to help in various school duties like the correction of papers or supervision of games to observe experienced teachers, and to attend staff meetings; all required practically the same

courses in the theory of education and in educational methods, differing only in minor points such as the requirement of history of education; all of them required the student to do three weeks' teaching before beginning his professional course. This three weeks' experience is supposed to serve two purposes: to give the student some practical experience on which to base his educational theory and also to demonstrate the unfitness of certain students for the teaching profession before they have undertaken the year's course. However, it is a common practice to fulfill this three weeks' teaching requirement at the beginning of the undergraduate university course, at least three years before the beginning of the graduate professional course. This practice interferes with both of the purposes of the requirement, because it is too far separated from the professional training and because it is difficult to judge how an eighteen-year-old boy or girl will develop.

With the exception of these few uniform factors there is the greatest variety in the practice of different institutions for the training of secondary teachers. Some offer many courses of lectures and require attendance upon them, others offer few lectures and carry on their instruction mostly by essays discussed with a tutor. Some of them send each student to one secondary school for his entire experience, others move him about during the year so that he comes in contact with several varieties of schools. Some of them turn over the entire supervision of the practical work to the secondary school; others rely mostly on the secondary school for supervision but do send one representative from the training department to visit each student once or twice and to confer with him, with the head-master or head-mistress, and with the teachers in charge of his work; while still others supervise the student closely, making daily visits in the beginning and visiting him at least once a week during the whole period of his practical work. Some institutions send each teacher in the education department to supervise students teaching widely different subjects, whereas others group together all the students teaching the same subject under the direction of a tutor who is a specialist

in that subject and who supervises their work in that subject alone.

There is also the widest variety in time schedules. According to one plan the students follow the same schedule for the entire year, giving two days a week to practical teaching experience and the other three days to lectures and readings in the theory of education; according to a second plan the students follow this same schedule for most of the year but add several weeks at the end when they teach five days a week and thus gain more consecutive teaching experience; according to a third plan the students devote one entire term, usually the middle term, to teaching experience and the other two terms to theory. I found some earnest advocates of each of these plans and many who felt that each arrangement has certain advantages and certain disadvantages. On the one hand some university teachers felt that students did better work in educational theory when their reading and study was not interrupted by the constant demands of practical teaching; but on the other hand many university teachers believed that students who had only three weeks' experience in an elementary school, and that experience often three years behind them, lacked all basis for understanding their first term of theoretical work and only awoke to the value of that work after finishing their term of practical teaching experience. I visited several secondary schools that had some pupil teachers working under the first plan and others under the third. Some of the regular teachers in these schools and one head-mistress told me they were sure that the students benefitted more from their experience when they taught only twice a week, could use their theoretical instruction to diagnose their difficulties and suggest remedies, and had the whole year in which to find themselves; but that the students who came every day for an entire term were more helpful to the school. However, another head-mistress who had dealt with students working under both plans was equally certain that the students in training as well as the school benefitted more by the concentrated experience. I was interested in the way the regular

teachers managed their class work when student teachers came only twice a week. In foreign languages the class usually read one book on the two days when the student teacher took charge and either read a different book or worked on grammar, composition and conversation the other three days; mathematics presented no difficulty because in English schools they usually devote two days to arithmetic and three to algebra, or three to algebra and two to geometry; there are also several subjects, history being one, which are taught only twice a week in certain forms and can therefore be taught entirely by student teachers. Only a few teachers found any difficulty in dividing up the work when student teachers came only twice a week. For the most part institutions situated in small towns like Oxford and Cambridge, where there are comparatively few secondary schools, devote the first and third terms to the study of educational theory and during the second term send their students to secondary schools in various parts of England. The institutions situated in large cities, on the other hand, tend to follow a uniform schedule for the entire year, devoting three days a week to theory and two to practice.

I visited a few classes in educational theory, and they seemed much like our own classes in the history and philosophy of education and in methods of teaching. I also visited many classes taught by student teachers. These teachers ranged from one so poor that she could not be recommended either by her university training department or the secondary school in which she was practicing to one so good that the head-mistress had decided to appoint her for the following year to fill a vacancy in the school, in spite of the fact that there had been between two and three hundred applicants for the position. All but the very poorest of these student teachers taught with a finish and precision which showed that they had given abundant time to the preparation of the given lesson, that they had known their pupils for many months, and that they were on familiar ground. Not one of them was teaching for more than three periods a day and many were teaching only one or two, so that they had not only

plenty of time to prepare thoroughly for each lesson, to look up related illustrative material, and to weigh the value of different methods of presentation, but also time to reflect upon each lesson after it had been taught, to analyze it and learn from their mistakes, and to seek advice from experienced teachers upon any problems it presented. When I compared these student teachers with the beginning teachers in our own secondary schools who teach five, six, and sometimes even seven periods a day, and rush from one mistake to another too swiftly to learn much from any of them, I wished that we also might have an adequate period of practice teaching. In no case did the teacher in charge remain in the room while I observed a student teacher. However, I was observing at the end of the academic year. In every case the regular teacher told me that she had remained in the class room at the beginning, had given suggestions as to the presentation of subject-matter and the management of the class, and only when she was convinced that the student teacher would profit more by being left on her own responsibility did she leave her for an entire period. When I compared the experience of these student teachers with that of beginning teachers I have known in our junior and senior high schools, who are often persecuted by noisy, independent and rebellious pupils, who must meet pupils with long experience in "trying out" a new teacher, and who are given no chance to show whether they can teach until they have first shown their ability to quell a mob, I wished that we might in our own country adopt a plan that might give our beginning teachers an opportunity to think first of their teaching and only later of the question of discipline. Since there is at present an over-supply of college graduates who fulfill their state requirements for teachers certificates and are candidates for teaching positions, it would be easy to increase these requirements. If many of our colleges and universities would establish graduate courses with such a judicious mixture of theory and practice that the theory would illumine the teaching experience and the teaching experience would show the need for the theory, and if they prepared students who were more successful as teachers than

college graduates who lack this professional training, they would create a demand for teachers with such training. It would then become the accepted thing for intending teachers to take a year of graduate work to prepare for their profession, and American teachers, also, would have an adequate period of training not purchased at the price of shortening and weakening their period of academic preparation.

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The 1934 College Sophomore Testing Program

I. Introduction

"THERE is perhaps no lesson which history teaches more plainly than that pressure toward conformity, on the one hand, and the advance of civilization on the other, stand in inverse ratio to each other."[1] The indications of this lesson from history are as patent in education as elsewhere, since conformity, particularly in the matter of curricula, has long been a problem crying for solution. To point out the dangers of conformity and to help release education from the pattern influences which would stultify the individual have been the aims of the Committee on Educational Testing in conducting its various programs of the past three years. Democratic ideals, far from aiming at a dead level of mediocrity, recognize and accept individual differences and would make use of them for socially acceptable ends. True education makes distinctions among men; it means finding one's own level; but misguided theorists on democracy and democratic education often obscure this fundamental truth. It is the function of the committee to help make the philosophy of individual guidance practical and in so doing to support the widespread movement toward revaluing educational traditions. In this objective the committee has enjoyed the collaboration of other American Council agencies, of several state organizations, of numerous colleges, and of several scientific societies.

Happily, indeed, more and more colleges are giving up the notion that all students should be poured into the same educational mould. In increasing numbers they are calling into question units of work, course credits, and the composite

[1] Chase, Harry W., Inaugural Address as Chancellor of New York University. *School and Society*, June 23, 1934.

grade as the sole index of school history, and as the only basis for recommending educational opportunities. In typical vein, the chairman of a college department recently complained that the composite grade meant nothing when he was faced with advising students to continue or avoid sequences of study and for recommending graduates for specific positions. His comment was this: "Certainly teachers should record quantitative estimates of the specific abilities and achievements of their pupils; and they should commit to writing their opinions about students as lazy or energetic and as capable of studying or working apart from a straw-boss."

Since 1928 the American Council has not only urged such a distinction in record keeping but has provided the cumulative record form for the purpose. In its original form this record is used by 120 institutions, and dozens of schools have adopted modifications. Most recently the Association of Minnesota College Presidents incorporated a modified record in the college admissions blank used throughout the state; and the secondary schools of Washington, D. C., are in the process of introducing a similar record in conjunction with a long-term program. This experiment has been undertaken with a view to developing what may become a national model for our schools in educational guidance and character building. Surely the increased use of such records, coupled with the increasingly accurate measures of learning how available, promises to negate the common charge against education epitomized by Robert Louis Stevenson, thus: "For though here and there a Lord Macaulay may escape from school honours with all his wits about him, most boys pay so dear for their medals that they never afterwards have shot in their locker, and begin the world bankrupt."

Once the composite grade is broken down and its component elements are identified and recorded systematically, it becomes immediately clear that something more is needed to satisfy a philosophy of education which is thoroughgoing. College and high school courses through years of curriculum making have been so split and fragmented that even a number of them taken collectively do not adequately cover a field

of study. And the corollary of this fact is that instructors incline to emphasize in any given course the things which interest them most, to test students only on this fragment of knowledge, and to neglect its larger aspects, or even to discourage students from broad acquaintance with the field. The unit-course system is inevitably restricted and distorted. Recognition of this fact led the committee to recommend the use of comprehensive examinations which purport to cover a larger share of content than that covered in any conventional course. Since extensive researches show that the majority of pupils gain much of their knowledge and do much of their thinking independent of formal study, and since diagnosing students is prerequisite to advising educationally with them, these comprehensive examinations have been urged as a partial means of securing a thorough survey of any given student's educational status and needs.

For years great emphasis has centered on measuring the extent to which pupils achieve the avowed objectives of particular courses in particular colleges. While this emphasis is entirely justified, in most cases such specialized measurement must still be left to the individual teacher. There is reason to believe, however, that progress in devising tests to satisfy the needs of many courses with relatively common content will be more rapid in the immediate future. During recent years more extensive and intimate cooperation has been established between test technicians on the one hand and subject matter experts and teachers on the other. These experts and teachers have demonstrated their skill in defining specialized objectives and have exercised patience in enabling test technicians to understand such definitions more precisely. This more extensive collaboration is most apparent in the field of the natural sciences, mathematics, and languages, but the advances made in these fields will soon be paralleled in the more difficult field of the social sciences.

College and school teachers in increasing numbers emphasize the importance of using tests that are more comprehensive than those constructed to measure specialized objectives. This emphasis has grown largely from the need for

learning as much as possible about students and from a growing realization that the educational status of a student does not depend solely, and in many cases does not depend immediately, upon his status in one specialized objective or in any one group of objectives set by a school or a teacher. The pupil is regarded as more important than the course of study. The motive for determining by course examinations whether the student should pass or fail still persists; but it is accompanied by a much broader and more constructive motive, namely, that of learning as much as possible about all the abilities, achievements, and interests of the pupil, so that such information can be used constructively in the work of guiding and helping him into experiences that will make him a more effective and happier citizen. As a point of educational reference, teachers are increasingly more interested in the welfare of the pupil than in the content of their own special subject matter. They tend to regard their own and all other subject matters as means rather than ends, as instrumentalities to be used only when they produce constructive results rather than as necessary prerequisites to education, culture, and good citizenship. Many teachers are now no longer satisfied merely to pass or fail a student in a particular course. The fundamental purpose of the school is to help make pupils better citizens, and to realize this purpose is by far broader and more important than to pass or flunk a student in a particular course or set of courses. This does not mean that passing or failing is unimportant. On the contrary, its meaning is more clearly apprehended and its importance better appreciated than formerly. Such information is now considered in its proper perspective, namely, as one of many important bits of information which the school may use to make a more effective citizen, if not a better scholar, out of the pupil in question. Failure to pass a course, according to this new outlook, is no longer regarded as an academic disgrace or even as unfortunate. Rather, it is an indication that the student's efforts have been misdirected and should be redirected along lines more compatible with his interests and his needs as an individual in society.

The examinations used in the study basic to this report were formulated to sample the content of wide fields of knowledge, general culture, general mathematics, general science, the foreign languages, and contemporary affairs. Specialized examinations in the sciences were offered, in addition, to aid teachers in evaluating special objectives. But the general comprehensive tests were the point of departure for discovering the trend of student interest and for judging whether present achievement makes one field of training more promising than another.

That these general tests are sufficiently comprehensive for the purpose of diagnosing interests and range of knowledge may be more apparent from an illustration. For example, the most recently recommended examination, the Cooperative Contemporary Affairs Test, represents the combined work of educational measurement experts and of sixteen professors from the social studies, the sciences, and art. Before editorial selection of items was made, 9,908 articles appearing in commonly read journals were analyzed and an elaborate chart was constructed so that ratios between the amount of space given various topics in the journals and the number of items on these topics could be established.

The percentile tables in a subsequent section of this report are based on a relatively small number of cases but only because colleges were delayed in making returns. Actually nearly 20,000 copies of the examination have been distributed for use in schools, and reception has been almost universally favorable. The following comment is typical:

"These tests (sophomore program) are of inestimable value to us in proving to the students where they stand in social illiteracy. Each spring, after the tests are given, the amount of general reading on the part of our group increases by 150 per cent! But by fall the shock has worn off a bit and needs to be repeated. A new set of tests will help greatly. This spring, the Contemporary Affairs Test was tried by faculty as well as students, and we were amazed to find out how little informed we actually were. Then, after the tests had been rated, the students took them home and tried them on family and friends. They are a forceful stimulus to think-

ing, especially when the student does not agree with the key and sets out to prove his point!"

Interest in social affairs is something that transcends any course, but knowing the extent of a student's understanding of contemporary events may be very significant when an administrator advises with him in regard to a sequence of studies. Recognizing this fact, the American Association of Schools and Departments of Journalism, for example, is considering through its research council the appointment of a committee to aid further in the developing of such examinations and to propose a departmental program of testing students before and after given periods of time with comparable instruments so that a norm of expectancy may be set up. Students whose gains are noteworthy may then be encouraged to continue study in a field in which they have already given promise.

Already the American Association of Physics Teachers has developed such a program in the field of physics, in which 355 departments have collaborated. The Mathematical Association of America has appointed a committee to consider systematic testing and guidance in their field. In chemistry and zoology corresponding programs are contemplated. All this is evidence that college departments are interested in the diagnosis of the individual in terms of his broad interests. Once these have been determined, advice for subsequent specialization may be more intelligently offered. As these various programs become definite it is believed that colleges will continue their support and will bend their efforts toward redirecting the emphasis in teaching accordingly.

Too long the schools have sanctioned undifferentiated mass education. They are now valiantly searching for ways of placing instruction on a teacher-student rather than on a teacher-class basis. Class instruction will, of course, continue, as it should; but it will be supplemented by self-initiated and self-propelled study over and above the core material made available through lectures. Teaching, like the practice of medicine, is an art. The physician makes use of chemical analyses, fluoroscopic examinations, and the like; the teacher

uses achievement tests, personality ratings, and narrative accounts of school and work history. In the final analysis both teacher and physician prescribe or advise intelligently only in terms of the total clinical picture—not in terms of any single test or interview.

Mediocrity, as an ideal, is not democratic. Mass instruction designed to level individual differences cannot show the schools what to do for the unusual or the failing student. In the past, colleges have tried to solve the problem by two administrative devices. One group of colleges would throw open their doors to all comers; the other group would select their students with great care. Both devices have failed dismally because of the enormous range of the ability and special interests which operate even in the most highly selective of schools. No general student body represents a homogeneity sufficient to justify imposing a uniform curriculum. This is the fundamental fact in higher education. Individualized education within colleges, in addition to group selection for college objectives, is most likely to bring the problem to solution.

Recent reports from the North Central Association[2] and the pronouncement of officers engaged in the study clarify the need for colleges to define their objectives with care. This point of view, we believe, is an extension of the growing demand for individualized education; it favors a kind of education designed to help all the children of all the people; it is a signal attack upon the problem of intelligently directed education. In the future, accreditation will likely be in terms of how accurately colleges define and pursue their objectives, how well they select their students, and how adequately they provide opportunities which will fit each student for a unique function within the general objectives set by the college. Ac-

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[2] Haggerty, M. E., "Accrediting Institutions of Higher Education." *The North Central Association Quarterly*, July, 1934. North Central Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education, Statement of Policy, February 3, 1934.

Zook, Geo. F., "Accrediting Schools and Colleges." THE EDUCATIONAL RECORD, January, 1934.

creditation will gain significance in the future largely through efforts toward individualized education.

II. THE 1934 COLLEGE TESTING PROGRAM

Participating Colleges.—The total number of colleges ordering tests specifically for the college sophomore program was 137; the total number ordering tests for the physics program was 355. The latter project grew out of previous sophomore surveys and is a joint enterprise sponsored by the committee making the present report and the Committee on Tests of the American Association of Physics Teachers. Because a considerable number of the colleges failed to make returns in time for full use in this report, the total number of colleges represented in the percentile tables for the sophomore tests is 95, the total number of colleges represented in the tables of averages is 102, and the total number of colleges represented in the portion of this report relating to the physics testing program is 255. Since the full report of the physics testing program will appear elsewhere, the list of the colleges participating in it will not be included here. The colleges taking part in the sophomore program are scattered in 37 states; the names are listed below by states:

ARKANSAS
- The College of the Ozarks
- * Harding College

CALIFORNIA
- * Immaculate Heart College (3)
- * La Verne College (3)
- Mills College (2) (3)
- * Modesto Junior College
- Sacramento Junior College
- * San Benito County Jr. College (3)

COLORADO
- Colorado Agricultural College (2) (3)
- Colorado State Teachers College (2) (3)

CONNECTICUT
- Teachers College of Connecticut (2) (3)

DISTRICT OF COLUMBIA
- Mt. Vernon Seminary (2) (3)
- Trinity College (2) (3)

GEORGIA
- * Bessie Tift College
- Emory University (2) (3)
- Mercer University (3)
- * Morehouse College
- Oxford Junior College (3)
- Valdosta Junior College (3)

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* Colleges which are not included in the national sophomore distributions.
(2) Colleges which gave the tests in 1932.
(3) Colleges which gave the tests in 1933.

ILLINOIS
- Aurora College (3)
- Rosary College (3)
- St. Xavier College for Women (2) (3)
- * Wheaton College (2) (3)

INDIANA
- * Manchester College

IOWA
- * Centerville Junior College (2) (3)
- * Estherville Junior College
- * Fort Dodge Junior College
- Graceland College (2) (3)
- Iowa State Teachers College
- * Luther College
- Parsons College
- Trinity College (3)
- Wartburg College (2) (3)

KANSAS
- St. John's College (2) (3)

KENTUCKY
- Berea College (2) (3)
- Caney Junior College (2) (3)
- Centre College (2) (3)
- * Eastern Kentucky State Teachers College (3)
- * Louisville Municipal College for Negroes (3)
- University of Louisville (2) (3)
- * Villa Madonna College

MAINE
- Westbrook Junior College (3)

MARYLAND
- Blue Ridge College (3)
- * Morgan College
- St. Mary's Female Seminary (2) (3)
- Western Maryland College (2) (3)

MICHIGAN
- Adrian College (3)
- Albion College
- Battle Creek College

MINNESOTA
- * Augsburg College (2) (3)
- Carleton College (2) (3)
- College of St. Benedict (3)
- College of St. Catherine (2) (3)
- College of St. Scholastica (2) (3)
- College of St. Thomas (2) (3)
- Concordia College (2) (3)
- Eveleth Junior College (3)
- Itasca Junior College (2) (3)
- Macalester College
- St. John's University (2) (3)
- * St. Mary's College
- St. Paul-Luther College (2) (3)
- University of Minnesota (2) (3)
- * Virginia Junior College (3)

MISSISSIPPI
- All Saints' College
- Belhaven College
- Millsaps College (2) (3)

MISSOURI
- Kansas City Teachers College (2) (3)
- Kemper Military School (2) (3)
- * Missouri Valley College (3)
- Northeast Junior College (2) (3)
- Park College (2) (3)
- * Stephens College (2) (3)

MONTANA
- Carroll College (3)

NEBRASKA
- Hebron College (2) (3)
- * Nebraska Wesleyan College
- * Scottsbluff Junior College (3)
- * State Teachers College, Wayne

NEW JERSEY
- * Centenary Junior College
- College of St. Elizabeth (2) (3)
- Brothers College of Drew University (2) (3)
- Georgian Court College (3)

NEW MEXICO
- New Mexico Normal University (3)

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* Colleges which are not included in the national sophomore distributions.
(2) Colleges which gave the tests in 1932.
(3) Colleges which gave the tests in 1933.

NEW YORK
Colgate University
* Columbia College (3)
* Experiential Groups (3)
Sarah Lawrence College
* Syracuse University, School of Education
State Normal and Training School
University of Buffalo (2) (3)

NORTH CAROLINA
Barber-Scotia Junior College
* Duke University
* Shaw University

OHIO
Antioch College (2) (3)
* Hiram College (3)
* Kenyon College
* Muskingum College (3)
Otterbein College
* St. John's College (3)
Wittenberg College (2) (3)

OKLAHOMA
* Colored Agricultural & Normal University
Muskogee Junior College (2) (3)
Oklahoma City University

OREGON
Linfield College (3)
Oregon Normal School (3)

PENNSYLVANIA
* Allegheny College (3)
* Cedar Crest College
College Misericordia (3)
Marywood College (3)
Penn Hall Junior College (3)
* Pennsylvania State College
Rosemont College (3)
St. Thomas College (2) (3)
Westminster College

RHODE ISLAND
Rhode Island College of Education (3)
Rhode Island State College

SOUTH CAROLINA
Presbyterian College (3)
University of South Carolina

SOUTH DAKOTA
Augustana College

TENNESSEE
* Hiwassee College
Knoxville College (3)
Southwestern (2) (3)
Tusculum College (2) (3)
Ward-Belmont College (2) (3)

TEXAS
Clarendon Junior College
* Incarnate Word College
Paris Junior College (3)
Southwestern University
Texas Christian University (2) (3)

VERMONT
State Normal School, Johnson

VIRGINIA
Sweet Briar College (2) (3)

WASHINGTON
State Normal School, Bellingham (3)
State Normal School, Cheney

WEST VIRGINIA
* Bethany College (2) (3)
* New River State College

WISCONSIN
Northwestern College
The Stout Institute (3)

The Tests Used.—The tests used in the 1934 program include several in addition to those used in the 1933 program. The latter included the Cooperative English Test, Series 1,

* Colleges which are not included in the national sophomore distributions.
(2) Colleges which gave the tests in 1932.
(3) Colleges which gave the tests in 1933.

Cooperative Literary Acquaintance Test, Cooperative General Culture Test, Cooperative General Science Test for College Classes, Cooperative General Mathematics Test for College Classes, Cooperative French Test, Cooperative Spanish Test, Cooperative German Test, and Cooperative Latin Test, all of which are described in the EDUCATIONAL RECORD for October, 1933. The additional tests used in the 1934 program are the following:

1. Cooperative Contemporary Affairs Test, by Alvin C. Eurich, Elmo C. Wilson and others. This test is based on an analysis of the content of current literature and is intended to measure the extent to which students keep abreast of significant current affairs in the fields of art, literature, government, international relations, politics, economics, religion, etc.; 207 items, 90 minutes.

2. Cooperative Physics Tests, by the Committee on Tests of the American Association of Physics Teachers. Part I, Mechanics, 60 minutes; Part II, Heat, 30 minutes; Part III, Sound and Wave Motion, 20 minutes; Part IV, Light, 40 minutes; Part V, Electricity, 50 minutes; Part VI, Modern Physics, 25 minutes. The six units together constitute a general comprehensive test in college physics, but each college was advised to choose a combination of topics to suit local needs.

3. Cooperative Chemistry Tests, by B. C. Hendricks, F. P. Frutchey, A. G. Horney, R. W. Tyler, and others. Part I, Information and Terminology, 90 minutes; Part II, Interpretation of Experiments, 45 minutes; Part III, Application of Principles, 45 minutes; Part IV, Symbols, Formulae and Equations, 75 minutes; C., a combined test covering three important aspects of elementary chemistry, Information, Terminology, and Application of Principles, 2 hours.

4. Cooperative Zoology Tests, by W. M. Barrows, J. W. Price, L. H. Snyder, and others. Part I, Information and Terminology, 90 minutes; Part II, Interpretation of Experiments, 45 minutes; Part III, Application of Principles, 45 minutes; Part IV, Identification of Structures and Their Functions, 75 minutes; Part V, Laboratory Techniques: (1) Using

the Microscope, (2) Making a Temporary Mount of Frog's Skin, (3) Making a Fresh Mount of Striated Muscle, (4) Dissecting Muscles of a Frog's Hind Leg, (5) Dissecting the Ventral Body Wall of a Frog, (6) Dissecting the Digestive Tract of a Frog, (7) Dissecting the Circulatory System of a Frog, (8) Dissecting the Brain of a Frog, (9) Dissecting the Earthworm; C., a combined test covering three important aspects of elementary zoology, Information, Terminology, and Application of Principles, 2 hours.

5. Cooperative Botany Tests, by F. K. Butters, P. O. Johnson, R. B. Gordon, C. W. Horton, H. C. Sampson, L. H. Tiffany, and others. Part I, Information and Terminology, 90 minutes; Part II, Interpretation of Experiments, 45 minutes; Part III, Application of Principles, 45 minutes; Part IV, Identification of Structures and Their Functions, 75 minutes; Part V, Laboratory Techniques, Using the Microscope; C., a combined test covering three important aspects of elementary botany, Information, Terminology, and Application of Principles, 2 hours.

6. Cooperative Geology Tests, by G. Marshall Kay and others. Historical Geology, 90 minutes; Physical Geology, 90 minutes.

Combinations of Tests Used.—Not all of the tests listed above were given in all participating colleges. While most of the colleges gave the General Culture, English, and Literary Acquaintance tests, and a majority the General Science test, the combinations of tests used in many colleges varied markedly.

Classes Tested.—Nearly all the participating colleges gave one or more of the tests listed to the sophomore class; four colleges gave some of the tests to all students in all four college classes. Twenty-three colleges tested apparently all students in three classes. Seven colleges gave one or more tests to students in at least two classes.

While institutional comparisons are not an important concern of the committee, all colleges were asked to indicate what portion of each class was tested. The answers received are not complete enough to warrant more than a presumption that the pupils tested represent a random sampling of the classes

in most of the participating colleges. These uncertainties regarding the class and institutional representativeness of the groups tested and the various combinations of tests used in each institution should be kept in mind in interpreting the data presented below.

III. SOPHOMORE TEST RESULTS

In this report, the results of the few simple tabulations that have been made will be presented very briefly, with a minimum of interpretation and comment. For the sake of brevity, the tabulations are presented and discussed without reservations regarding the validity of the tests, but the reader should remember throughout that the committee is conscious of the limitations of the tests used.

As already indicated on preceding pages, the detailed analysis of the results of the tests for each college was left to those most conversant with the local situation and those who are, therefore, most able to make useful analyses—the officers in each college. The results of the tests will be valuable to the extent that they are analyzed in the light of local conditions, and to the extent that such analyses are brought to bear upon the fundamental problem of giving to each individual student a more effective type of educational guidance. From this viewpoint, the most important part of this section of the report will be Table I (page 484, since this table will enable each institution to interpret the score of each student on each part of each test in terms of national percentiles. From the viewpoint of the committee, such study of individual students is vastly more important for education than the comparisons of institutions, types of institutions, professional goal groups, and classes, made below. The committee hopes that the large amount of space necessarily taken by even a brief presentation of such comparative data will not raise them in the eyes of the reader from the minor position which they occupy in the committee's whole program.

National Sophomore Percentile Scales.—In consonance with this view, national percentile scales are presented in Table 1. This table will enable each college to determine the

TABLE 1.—National percentile scales for the tests given in April and May, 1934, to college sophomores. The scales are based upon returns from all sophomores tested, regardless of curricular division or type of institution, for whom reports were received up to June 10, 1934. These tables show true percentiles, calculated from the distributions of scores.

Each score in each column shows the upper score limit of the percentile indicated at the extreme left and right of the line. For example, the bottom entry in the History and Social Studies column shows that all scores of 13 or below have a percentile value of 1; all scores from 14 to 17, inclusive, have a percentile value of 2; and all scores above 164 have a percentile value of 100. Many colleges used different combinations of tests, hence the numbers of cases and of colleges vary from column to column. The mean and sigma of the scores and the number of colleges involved in each column are shown at the top of each column.

	Hist. & S. S.	For. Lit.	Fine Arts	Total Gen. Cult.	Eng. Usage	Sp.	Voc.	Total Eng.	
No. of Cases	5,787	5,787	5,787	5,787	6,996	6,996	6,996	6,996	
No. of Colleges	70	70	70	70	84	84	84	84	
Mean	72	50	42	164	66	32	48	146	
Sigma	33.3	28.6	28.5	78.8	17.2	12.9	18.0	41.4	
Percentile									%iles
100	224	215	186	550	110	55	96	245	100
99	164	139	130	393	97	53	88	228	99
98	152	122	116	361	95	53	85	222	98
97	145	113	109	341	94	51	83	218	97
96	139	107	103	325	93	51	81	215	96
95	134	103	98	310	92	50	79	212	95
94	130	99	94	300	91	50	78	209	94
93	126	96	90	293	90	50	77	207	93
92	123	94	87	285	89	49	75	204	92
91	120	91	84	279	88	49	74	202	91
90	118	89	81	272	88	48	73	201	90
88	113	84	77	260	86	48	71	197	88
86	109	80	73	251	85	46	69	193	86
84	105	77	69	242	84	46	68	190	84
82	102	74	66	234	83	45	66	187	82
80	99	71	64	227	81	44	65	184	80
75	93	66	58	210	79	43	61	178	75
70	87	61	53	196	76	41	58	171	70
65	82	56	48	183	74	39	55	164	65
60	77	52	44	172	71	38	53	159	60
55	73	48	40	162	69	35	50	153	55
50	68	45	37	152	67	33	48	147	50
45	64	42	33	142	64	31	45	142	45
40	60	38	30	133	62	29	43	136	40
35	56	35	28	125	60	27	41	129	35
30	52	32	25	116	57	24	38	123	30
25	48	29	22	106	54	22	35	117	25
20	44	26	18	96	50	19	32	110	20
18	42	25	17	93	49	18	31	106	18
16	40	23	16	89	48	17	30	103	16
14	37	21	14	84	46	16	28	99	14
12	35	20	12	80	44	15	27	94	12
10	32	18	11	74	42	14	25	90	10
9	31	17	10	72	41	13	24	88	9
8	30	16	9	69	39	12	23	85	8
7	28	14	8	65	38	11	22	82	7
6	27	13	6	62	37	10	21	79	6
5	25	12	5	59	35	9	19	76	5
4	23	10	4	54	34	9	18	72	4
3	20	9	3	50	31	7	16	67	3
2	17	6	2	43	29	6	14	59	2
1	13	3	1	33	23	4	11	50	1

TABLE I.—*Continued*

	Lit. Acq.	Cont. Aff.	Gen. Sci.	Gen. Math.	College Grade	
No. of Cases	6,484	2,619	4,271	1,361	5,636	
No. of Colleges	77	36	48	40	78	
Mean	57	86	51	51	5.5	
Sigma	26.4	41.3	30.0	26.9	1.7	
Percentiles						%iles
100	164	240	207	145	9.0	100
99	130	198	138	126	9.0	99
98	120	185	123	116	9.0	98
97	114	177	115	109	9.0	97
96	110	168	110	105	8.9	96
95	106	161	106	101	8.8	95
94	103	155	102	99	8.7	94
93	100	151	99	96	8.6	93
92	97	148	95	94	8.5	92
91	95	146	92	92	8.4	91
90	93	143	89	90	8.2	90
88	89	138	85	87	8.0	88
86	86	133	82	83	7.9	86
84	84	128	79	80	7.8	84
82	81	124	76	77	7.6	82
80	78	120	73	73	7.5	80
75	73	113	67	67	7.2	75
70	68	105	62	61	6.9	70
65	64	98	57	57	6.7	65
60	60	92	53	53	6.4	60
55	56	87	50	49	6.1	55
50	53	81	46	46	5.9	50
45	50	75	42	42	5.7	45
40	47	69	39	39	5.5	40
35	44	65	36	36	5.3	35
30	40	60	33	33	5.1	30
25	37	55	29	30	4.8	25
20	33	49	26	27	4.5	20
18	32	47	25	25	4.3	18
16	30	45	23	24	4.2	16
14	29	42	22	23	4.1	14
12	27	39	20	21	3.9	12
10	25	36	19	20	3.6	10
9	24	35	18	19	3.5	9
8	23	33	17	18	3.4	8
7	22	31	16	17	3.3	7
6	21	30	15	16	3.1	6
5	19	28	13	15	3.0	5
4	18	25	12	14	2.8	4
3	16	22	10	13	2.5	3
2	14	19	8	11	2.2	2
1	10	15	5	10	1.9	1

national standing of each student who took one or more of the tests. In view of the large differences among colleges, it may be more convenient for purposes of local analysis for each college to construct similar scales based entirely on local returns. This suggestion is made particularly to those colleges whose averages are far from the national average. This table shows national percentile scores for each of the most widely used of the tests given in April and May, 1934.

The data on college grades were obtained from the participating colleges in accordance with the following directions:

"In column 20 please write the average college grade in all subjects. The average grade should be based upon all grades that are on the official records of the registrar's office at the time this form is filled out. This means that the averages will not include grades for the current semester unless the mid-semester marks are available when this form is filled out. It is requested that in reporting the average grade the code given below be used. This code is necessary because different institutions use different symbols for grades, some using letter grades, A-B-C-D-F or E-G-F-P, etc., and some using percentages. In order to maintain comparability as far as possible between the grades for different institutions please transmute whatever system of grades you use into marks of Excellent, Good, Fair, Poor, and Probation. In some institutions only students who receive 95 or above may be considered excellent. In other institutions a student receiving an average of 85 may be considered excellent. The intermediate points in the code, namely, 2, 4, 6, and 8, are provided in order to permit adjustments where there is some doubt regarding the group in which the student's average places him.

Code for Average College Grades:

9 Excellent
8
7 Good
6
5 Fair
4
3 Poor
2
1 Probational or failing"

Equivalent Scores on 1933 and 1934 Tests.—The 1933 and 1934 forms of the Cooperative tests used in this program were originally made as closely equivalent as possible, but it is almost never possible to secure exact equivalence, regardless of how carefully the tests were originally made. For this reason the successive annual forms of the Cooperative tests are always experimentally checked for equivalence with the forms of the preceding year, and if, as frequently happens, they are found not to be equivalent, tables of equivalent scores are constructed so that comparability may be maintained from

TABLE 2.—Equivalent scores of the 1933 and 1934 General Culture, General Science, English Series 1, and Literary Acquaintance tests. To convert total General Culture scores, convert each of the three part scores, and summate them. Scores on the Spelling section of the 1933 and 1934 English tests are equivalent throughout, hence no table for spelling scores is necessary. Interpolation should be used to convert scores not shown in the table.

GENERAL CULTURE				ENGLISH SERIES 1			
I. History and Social Studies	II. Foreign Literature	III. Fine Arts	General Science	Usage	Vocabulary	Total	Literary Acquaintance
1933 1934	1933 1934	1933 1934	1933 1934	1933 1934	1933 1934	1933 1934	1933 1934
268—268	295—295	240—240	270—266	110—110	100—100	265—265	200—200
260—259	287—287	233—234	262—259	106—107	94—100	261—261	198—194
253—251	280—279	225—227	254—251	101—103	90— 95	257—258	196—188
246—243	273—272	217—220	246—243	98—101	86— 90	252—254	193—182
238—234	264—264	208—212	237—235	93— 97	83— 86	247—250	189—176
231—226	256—256	200—205	229—227	89— 94	79— 81	242—246	185—170
223—218	248—248	192—197	221—220	86— 91	76— 76	237—242	181—164
216—210	240—241	184—189	213—212	85— 89	73— 72	233—238	177—158
208—201	232—233	176—182	205—204	83— 87	71— 70	228—234	172—152
202—194	224—226	168—175	197—197	80— 84	69— 67	223—230	166—146
195—186	217—218	160—167	189—189	76— 80	66— 64	219—226	161—140
188—178	210—211	152—160	181—181	72— 76	62— 60	214—222	155—134
180—170	202—203	144—152	173—174	69— 73	58— 56	209—217	149—128
172—162	190—190	136—145	165—166	66— 70	53— 51	207—213	143—122
164—154	170—170	128—138	157—158	62— 66	50— 48	204—209	137—117
156—146	150—150	120—131	150—152	59— 63	46— 43	203—206	131—111
147—137	130—130	112—124	143—145	54— 58	41— 38	201—204	125—105
139—129	118—119	104—116	135—138	51— 55	36— 33	196—199	119—100
131—121	110—111	96—109	127—130	48— 52	31— 28	194—196	113— 94
123—113	102—104	89—101	119—122	43— 47	27— 24	190—192	107— 88
115—106	94— 96	81— 93	111—115	40— 44	22— 19	188—190	101— 82
108— 99	86— 90	75— 85	103—107	36— 39	17— 14	185—187	97— 79
101— 93	78— 82	68— 77	95— 98	31— 34	12— 10	183—185	91— 74
93— 86	70— 75	61— 69	86— 90	28— 30	7— 5	180—181	85— 69
86— 80	62— 67	54— 61	78— 83	23— 25	2— 2	178—179	81— 67
79— 73	54— 59	46— 53	70— 77	20— 22	0— 0	174—174	75— 61
71— 65	46— 51	38— 45	61— 69	15— 16		170—170	71— 58
63— 58	38— 43	31— 37	52— 61	10— 11		160—160	67— 55
55— 51	31— 35	24— 29	44— 55	6— 6		150—150	63— 52
47— 44	24— 27	16— 21	37— 46	0— 0		140—140	59— 49
39— 36	20— 20	8— 13	31— 37			120—120	53— 44
32— 30	10— 10	3— 4	26— 29			100—100	47— 39
24— 22	0— 0	0— 0	20— 21			80— 80	41— 35
17— 16			12— 13			60— 60	35— 30
9— 8			5— 5			40— 40	29— 25
0— 0			0— 0			20— 20	23— 20
						10— 10	17— 15
						0— 0	11— 10
							5— 5
							0— 0

year to year. Thanks to the cooperation of the University of Minnesota, the University of Louisville, Texas Christian University, and the University of South Carolina, we are enabled to present tables of equivalent scores for the 1933 and 1934 General Culture and General Science tests. From other sources we are able to present a table of equivalent scores for the 1933 and 1934 English Series 1 and Literary Acquaintance

tests. Table 2 will enable any college that used both the 1933 and 1934 tests to compare the students who took the tests in 1933 with those who took the tests in 1934. The equivalence of scores not shown in the table can be calculated by simple interpolation.

Percentile Scales of Foreign Language Tests.—Table 3 shows abbreviated percentile scales for indicated credit groups for each of the four foreign language tests based upon all returns available at the time of writing this report. The numbers of cases are small, and the scales should therefore be used cautiously. It is the hope of the committee that much larger numbers of the foreign language tests will be used in the 1935 program.

Results of Tests in Chemistry, Zoology, and Botany.—The Cooperative tests for college students in chemistry, zoology, and botany became available in time for use in the 1934 program, but they were not available early enough in printed form to allow these science departments in the various colleges to inspect them and choose the tests in accordance with local needs. For this reason only a few of these tests were used. Percentiles for those most frequently used are shown in Table 4. The colleges that did use these tests have registered considerable enthusiasm, and the committee confidently expects that these college science tests will become increasingly prominent features of succeeding testing programs.

Variability of Achievement in Colleges.—The sixteen colleges included in Chart 1 were chosen to represent approximately the whole range of medians from the highest to the lowest, and all types of institutions giving the tests to sophomores and making returns in time for inclusion in this report. The sixteen colleges include universities, four-year colleges, junior colleges, and teachers' colleges in more than a dozen states, and represent various types and conditions of accreditation and non-accreditation. The indications of this chart are adequately summarized by the paragraphs describing the corresponding charts in the report of the 1932 and 1933 programs.

Chart 1 shows two types of variability; the first is the variability of median scores of different colleges, and the sec-

TABLE 3.—Foreign language test percentiles for indicated credit groups. This table is to be read in the same way as Table 1. In view of the small numbers of cases, the percentiles are here given in abbreviated form.

	FRENCH				SPANISH			GERMAN			LATIN			
Years of College Credit	1	2	3	4+	1	2	3+	1	2	3+	1	2	3	4+
No. of Cases	537	904	413	109	162	242	62	334	316	65	51	72	134	161
No. of Colleges	44	44	30	15	24	28	16	29	33	15	10	20	18	17
Mean	89	122	147	192	81	110	150	69	90	162	116	144	153	173
Sigma	45.2	50.5	52.5	48.3	41.8	47.4	58.3	42.2	56.6	69.4	45.1	51.2	45.0	50.8
Percentiles														
100	238	257	267	271	255	270	267	236	262	260	226	257	257	284
98	203	224	239	264	193	227	263	196	224	259	224	237	231	262
93	163	199	221	255	141	187	238	138	187	251	178	224	214	242
90	145	191	216	247	131	176	227	121	177	247	169	214	207	234
84	131	177	204	241	115	161	216	103	150	238	158	203	198	223
80	126	170	195	235	106	150	212	96	141	235	154	189	193	218
75	118	159	188	228	98	137	198	90	128	223	147	175	186	209
70	109	151	182	219	94	130	179	84	114	216	144	167	179	203
60	97	133	166	212	85	114	162	72	94	185	127	158	170	191
50	84	119	151	201	78	101	140	61	75	166	118	145	159	181
40	74	106	134	190	69	91	127	53	64	142	107	133	145	164
30	58	93	112	176	57	81	112	43	50	126	88	124	134	148
25	52	84	103	160	50	77	107	38	45	96	79	120	122	140
20	47	76	98	143	44	71	98	34	38	75	76	92	113	126
16	42	69	92	133	40	67	92	30	33	70	72	86	104	114
10	35	55	76	117	35	57	83	22	28	60	55	71	84	103
7	29	48	67	106	27	46	80	19	24	43	51	62	81	95
3	21	34	50	88	21	35	29	11	14	34	32	55	65	64
1	13	20	30	80	16	22	3	5	8	31	7	33	46	43

TABLE 4.—Percentile tables for Chemistry, Zoology, and Botany tests. Because of the small numbers of cases, the percentiles are presented in abbreviated form. This table is to be read in the same manner as Table 1.

Test	CHEMISTRY C	CHEMISTRY IV	ZOOLOGY C	BOTANY C	
No. of Cases	1,124	204	710	155	
No. of Colleges	31	5	22	10	
Mean	131	98	114	92	
Sigma	55.5	52.5	44.8	38.7	
Percentiles					%iles
100	319	244	279	229	100
98	253	218	214	182	98
93	222	194	183	150	93
90	211	173	173	144	90
84	188	151	160	135	84
80	178	140	153	123	80
75	167	127	145	114	75
70	157	121	137	108	70
60	140	107	122	98	60
50	123	92	110	88	50
40	110	77	97	78	40
30	95	61	85	70	30
25	87	56	81	66	25
20	81	51	75	60	20
16	75	46	70	55	16
10	64	35	61	43	10
7	55	29	53	39	7
3	42	21	43	29	3
1	32	12	36	25	1

ond is the more significant variability of scores of students in individual colleges. While both types of variability indicate the great need for more adequate educational guidance of students, both before and after they reach college, the second type more particularly defines the immediate opportunity of the colleges to serve those young people who have already been admitted, and also, in cooperation with the secondary schools, to serve similar groups of young people who are planning to come to college.

The differences among the colleges whose sophomores participated in this program, as indicated by the differences displayed on Chart 1, are very large indeed, so far as achievement in spelling, usage, and vocabulary is concerned. Similar charts for the General Culture, General Science, and General Mathematics tests, which are omitted from this report to save space, indicate equally large differences in each of these fields.

Chart 1 is particularly interesting because of the availability of comparable English test data on entering college freshmen and on independent secondary school pupils, represented by the five bars at the extreme right of the chart. The median score of 3,268 college entrants in 10 colleges in September, 1932, and the medians of 1,778 twelfth grade pupils in independent secondary schools are slightly above the national sophomore median. The sophomore class medians on the English test are below the median of the ninth grade in three colleges and below the median of the tenth grade in eleven of the participating colleges. In one of these colleges, about 85 per cent of the sophomores are below the tenth grade median. In the college which secured the highest median score in the English test, about 15 per cent of the sophomores are below the twelfth grade median.

Variability within Colleges.—These relations are of considerable portent for both the philosophy and practice of educational guidance throughout secondary school and college. In Chart 1 we are concerned with basic aspects of the native language. The spread of scores within a single college, from far below the ninth grade median of independent secondary schools to far above the national sophomore median, is of

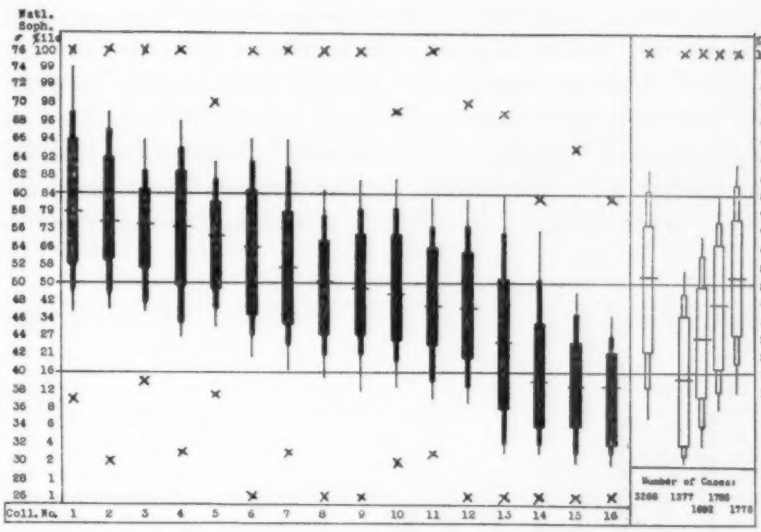


CHART 1.—Variability of achievement in participating colleges as measured by the English test.

The middle horizontal line shows the national median, and the other two are at the 16th and 84th percentiles of the national sophomore distribution. The percentile scale at the left is based on returns for 6,996 sophomores from 84 colleges that took this test, and reported results in time for inclusion in the percentile table. Each bar represents an individual college. The wide portion of each bar represents the range of scores of the middle half of the sophomores in each college. The narrow parts extend to the 16th and 84th percentiles in each college. The lines at the end extend down to the 10th percentile and up to the 90th percentile. The cross below the bars represent the lowest scores and those above represent the highest scores in the several colleges. The short cross line near the middle of each bar represents the median score of the college.

While this chart is based entirely on percentiles, the scale has been altered to correspond roughly to a sigma scale, so that vertical distances are approximately comparable. The sigma scale is derived from the percentile scale.

The sixteen colleges included here are chosen to represent approximately the whole range of averages of the colleges that gave the English test. All types of institutions are represented. The numbers of cases vary from 40 to 275.

basic significance. If these indications are no more than approximately correct, the great need suggested is not so much a more ardent concern over the rectification of institutional standards as a humane ardor for finding and serving the needs of individuals in the heterogeneous and largely over-

lapping masses that now populate both secondary schools and colleges. It is obvious that, with such student bodies as here indicated, mass standards and "average performance" are not only irrelevant but ironical. It seems equally obvious that no simple and easy changes can be remotely adequate for making the readjustment demanded by the heterogeneity here exposed. Nothing short of a definite abandonment and repudia-

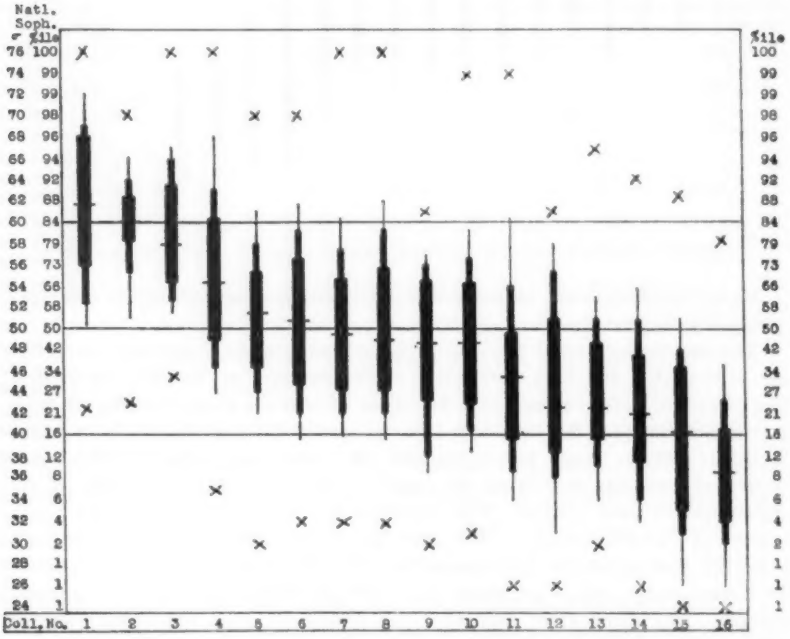


CHART 2.—Variability of achievement in participating colleges as measured by the Contemporary Affairs test. This chart parallels Chart 1, and is to be read in the same manner.

tion of blanket prescriptions and unmitigated mass standards, and a genuine and wholehearted acceptance of the fact of individual differences and their increasingly obvious administrative and guidance implications, would seem to be a sufficient reason for hopefulness in regard to this crucial social problem.

Contemporary Affairs Test.—Chart 2 shows that the colleges are as variable with regard to acquaintance with con-

temporary affairs as they are with regard to achievement in English, General Culture, science, and foreign languages. The range of college averages in terms of national percentiles is greater in Contemporary Affairs than in English, and the spread of scores within colleges is approximately the same in Contemporary Affairs as in English. Five of the colleges in Chart 2 also appear on Chart 1. In general, there is positive correlation between standing on the English and on the Contemporary Affairs test, but there is at least one interesting reversal. Colleges 6 and 8 on Chart 2 are practically

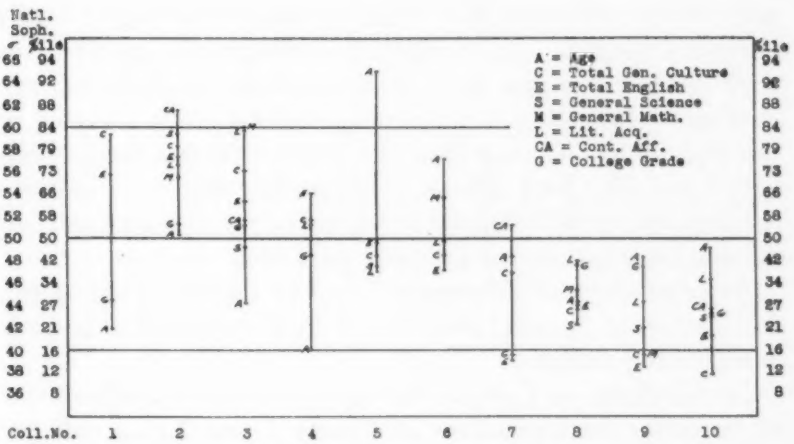


CHART 3.—Variability of college averages on different tests. College means are here graphed in terms of national sophomore percentiles, the scale being arranged as in Chart 1.

equal on the Contemporary Affairs test, but in Chart 1 these two colleges appear as numbers 15 and 11 respectively. Although more than 80 per cent of the sophomores in College 15, Chart 1, are below the average of College 11, Chart 1, the former, College 6, Chart 2, is slightly above the latter, College 8, Chart 2, on Contemporary Affairs. This difference indicates a considerable difference in curricular and/or extra-curricular influences brought to bear upon students in these two institutions.

Variability of College Averages on Different Tests.—Chart

3 illustrates graphically how relative standing in a given college varies from one variable to another. The colleges are arranged from left to right in the order of their average scores on the General Culture test. In colleges 3 and 4, relatively, the sophomores are young and secure low average college grades, but are high on one or more of the sophomore tests. College 2 is only slightly above College 3 in General Culture, but is much higher in Contemporary Affairs; College 3 is far above College 7 in General Culture but is barely equal to College 7 in Contemporary Affairs. College 2 is much higher than College 3 in General Science, but is somewhat lower in General Mathematics, in which College 2 barely exceeds College 6. At the right, the colleges with mediocre or very low test averages show relatively high chronological age averages. In College 1 the average college grade assigned to the sophomores is lower than in all other colleges except numbers 7 and 10. Such differences in grading standards indicate the importance of comparable measures for transfer and admission no less than for guidance purposes.

Some of the test differences found in Chart 3 suggest the desirability of detailed analysis of local test results in each participating college.

Distributions of College Averages.—Table 5 confirms for all variables the indications of Charts 1 and 2 that colleges differ widely with respect to achievement of the types measured by the tests. On some of the tests, several colleges secure mean scores which are at or above the 84th percentile, while equal numbers of colleges secure mean scores at or below the 16th percentile. This means that in some colleges roughly half of the sophomores are in the highest 16 per cent of the national sophomore group, and in other colleges roughly half of the sophomores are in the lowest 16 per cent of the national sophomore group. Such differences, in conjunction with variable grading standards (Chart 3), signify much for admissions officers who are considering applications for advanced standing, and for those who are engaged in constructive educational guidance. These data emphasize the need for supplementing present appraising devices with in-

TABLE 5.—Distributions of college sophomore averages. The sophomore means of all colleges for which data were available are here distributed in terms of national sophomore percentiles. The percentile scale has been altered as in Chart 1, so that the intervals correspond approximately to a sigma scale. The vertical distances are therefore roughly comparable.

Natl. Soph. %iles	Age	Hist. & S. S.	For. Lit.	Fine Arts	Total Gen. Cult.	Eng. Usage	Spell.	Voc.	Total Eng.	Lit. Acq.	Cont. Aff.	Gen. Sci.	Gen. Math.	Coll. Grade	Natl. Soph. %iles
98–100															98–100
96– 97															96– 97
94– 95															94– 95
92– 93	2			1											92– 93
88– 91				1								1	1		88– 91
84– 87	1	1	4	3		1		1		1	3	1	2		84– 87
79– 83	2	1	1	3	4	1		1		5	2	3	6		79– 83
73– 78	2	3	7	6	7	3		4	6	6	1	1	2	2	73– 78
66– 72	4	6	11	9	10	6	3	7	10	11	1	6	8	1	66– 72
58– 65	10	13	9	8	8	12	15	8	10	20	2	9	7	9	58– 65
50– 57	14	14	13	10	17	15	15	17	13	9	15	7	3	15	50– 57
42– 49	18	17	10	10	6	20	24	20	17	10	4	10	3	15	42– 49
34– 41	11	8	10	9	12	12	18	15	15	10	3	4	5	18	34– 41
27– 33	11	5	4	7	3	4	10	5	6	4	4	5	2	12	27– 33
21– 26	11	3	3	3	3	9	1	3	6	1	2	3	1	4	21– 26
16– 20	9	1	1	3	1	3	2	3	2	1	1	1	1	1	16– 20
12– 15	2		1	1	2	2		4	2	1			1	4	12– 15
8– 11		2			1				1		1			1	8– 11
6– 7	1														6– 7
4– 5															4– 5
2– 3	1														2– 3
1															1
Total.....	99	74	74	74	74	88	88	88	88	79	39	51	42	82	

TABLE 6.—Distributions of college averages on the foreign language tests for indicated college credit groups. In computing college credits, one high school year was considered equivalent to one-half college year of credit. The numbers of cases on which the college averages are based range from 1 to 92; if all averages based on fewer than 5, or even 10, cases had been excluded, the relations indicated in this table would not be noticeably different. In the French test columns, the dotted lines indicate tenth, eleventh, and twelfth grade independent secondary school medians, and the dash lines indicate medians of entering college freshman groups that had had two, three, or four years of high school French.

The table is to be read as follows: In the 1-1½ year column for French, one college secured an average score between 200 and 210; one college secured an average between 180 and 190; and so on to the bottom of the column where it appears that three colleges secured averages of between 20 and 30 score points. Referring to the dotted horizontal line, it appears that in most of the colleges the 1-1½ year college credit groups secured averages below the tenth grade median in a group of highly selected independent secondary schools, while more than half averaged below the dash line, or below the average of entering college freshmen who had had two years of high school French.

The vertical brackets at the right of each distribution indicate the 25th, 50th, and 75th percentiles from Table 2.

Score	FRENCH				GERMAN			SPANISH			LATIN				Score
	Years of College Credit														
	1-1½	2-2½	3-3½	4+	1-1½	2-2½	3+	1-1½	2-2½	3+	1-1½	2-2½	3-3½	4+	
260										1					260
250															250
240				1										1	240
230															230
220		1		1			1							1	220
210			1	3						1		1	2	4	210
200		1		3			1							2	200
190			5	1		1	2			2		1	3	1	190
180			4					1	1	1		1	2	2	180
170		2	2	1		1			1	2			4	2	170
160		4	3	1			1		2	1		3		2	160
150	1	3	5			3	1		3	1		4	1	2	150
140	1	2	2	1		1	2		2	2	2		1		140
130	2	8	2	1	1				1	1	1	2	2		130
120	5	7	3			1	2		4	2	1	2	2	1	120
110	3	7	3			4		1	2		2	3			110
100	2	4		1	2	2	1	1	3		1		2		100
90	4	5		1	2	2		5	3		1	1			90
80	4	2	2			3	1	5	2			1			80
70	5	3			1	5	1	3	2		1	1			70
60	7	1			6	3		2	1						60
50	3				5	2	1	3			1				50
40	2				4	4		1				1			40
30	1				5	3	2	2	1	1					30
20	3				4			1							20
10					2										10
Total Colleges	46	47	32	15	32	35	16	25	28	16	10	21	19	18	

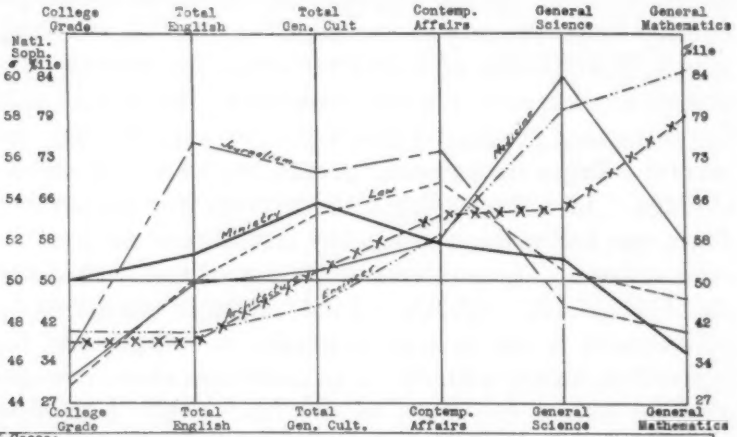
struments which yield more objective and more comparable measures.

Comparison of College Averages on the Foreign Language Tests.—Table 6 shows distributions of college averages on each of the foreign language tests for indicated college credit groups. The numbers of cases on which the averages actually included in the table are based are quite small, ranging from 1 to 90 or more, but since the averages (or single scores, as

the case may be) represent the tested achievement of groups or of individuals officially placed in defined credit groups by the colleges, Table 5 seems to afford significant evidence on the variable meaning of college credits in the foreign languages.

It is apparent that even in a sequential subject-matter like French, groups that are officially equal in training or credit status are extremely variable in tested achievement. The distributions of college averages for the three credit groups overlap approximately in the same way and to the same extent as distributions of individual scores for successive credit groups or classes in a single institution. In several colleges the three-year groups are below the two-year average, and in several colleges the two-year groups are above the three-year average. In a few colleges the average for third-year students was below the average for second-year students in the same college. The positions of the dotted and dashed lines in the French test columns afford eloquent comparisons of achievement in the foreign languages in colleges and highly selected secondary schools. The dash lines show averages of entering college freshmen, mostly from public high schools, who had had 2, 3, and 4 years of high school French. These entering freshmen took the Cooperative French test as a placement test in September, 1932, in 7 colleges. These 7 colleges probably attract superior students, but, even so, it is not without significance that the 2, 3, and 4-year *high school* credit groups secure averages close to or above those of the 1-1½, 2-2½, and 3-3½ year *college* credit groups, respectively. In more than half the colleges the 1-1½ year college credit groups secure averages below, and in several far below, the 2-year high school credit group of entering freshmen; five out of 47 colleges in the 2-2½ year college credit group secure averages above the 3-year high school credit group; and only one college in the 3-3½ year college credit group has an average above the 4-year high school credit group. The dotted lines, representing the tenth, eleventh, and twelfth grade class averages in independent secondary schools, are all above the averages of the corresponding college credit groups.

Comparison of Professional Goal Groups.—Chart 4 shows graphically indicated test averages of sophomores grouped according to their reported professional goals. In order to avoid a multiplicity of lines in the chart, the averages of three groups, Business, Teaching, and Agriculture, are omitted. The averages of the Business and Teaching groups on all variables are at or near the national median; the number of cases in the agriculture group is too small to be significant.



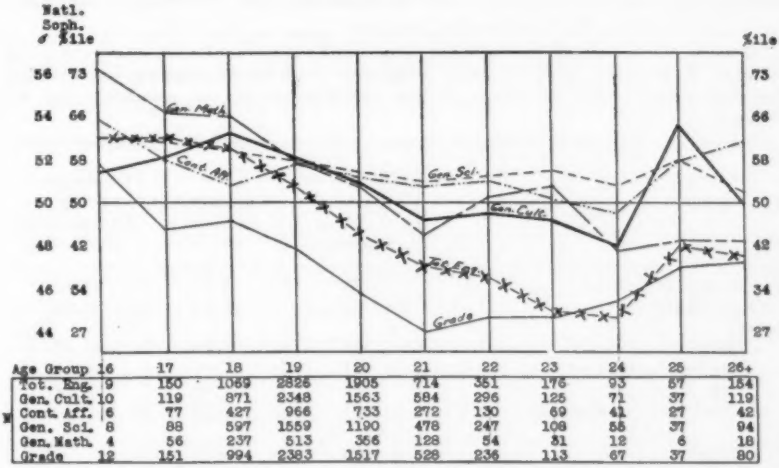
No. of Cases:	College Grade	Total English	Total Gen. Cult.	Contemp. Affairs	General Science	General Mathematics
Medicine	490	491	609	135	481	93
Law	309	244	346	104	238	59
Engineering	176	214	171	122	118	143
Architecture	19	40	22	26	12	7
Ministry	275	258	253	62	122	28
Journalism	53	56	71	14	41	11

CHART 4.—Comparison of professional goal groups. Graphs of means on indicated tests of college sophomores who reported their professional goals. The averages are graphed in terms of national sophomore percentiles arranged as in Chart 1.

Chart 4 affords several interesting contrasts. In general, the medicine, engineering, and architecture aspirants are relatively high in science and mathematics, and low in English, General Culture, and Contemporary Affairs; while the journalism, law, and ministry groups are low in science and mathematics, and high (with minor exceptions) in the other tests. The pre-journalists take highest place in English, General Culture, and Contemporary Affairs. The ministry group takes highest place in average college grade, second highest place in English and General Culture, and lowest place in Contem-

porary Affairs and mathematics. All pre-professional groups except the ministerial secure relatively low average college grades.

All pupils in each professional group that took the indicated tests are included in this chart. Since some colleges did not use some of the tests, the numbers of cases vary from test to test. For this reason the indications should be interpreted with cautious reservations.



Age Group	16	17	18	19	20	21	22	23	24	25	26+
Tot. Eng.	9	150	1069	2825	1905	714	351	176	93	57	154
Gen. Cult.	10	119	871	2348	1563	584	296	125	71	37	119
Cont. Aff.	6	77	427	966	733	272	130	69	41	27	42
Gen. Sci.	8	88	597	1559	1190	478	247	108	55	37	94
Gen. Math.	4	56	237	513	356	128	54	31	12	6	18
Grade	12	151	994	2383	1517	528	236	113	67	37	80

CHART 5.—Comparison of age groups. Means of chronological age groups of sophomores on indicated variables, graphed in terms of national sophomore percentiles arranged as in Chart 1. Since the national distributions show varying degrees of positive and negative skewness, the means as here graphed appear too high for some variables and too low for others. However, it is the direction of the lines, rather than their height on the chart, that is significant here.

Comparison of Age Groups.—Chart 5 shows the familiar negative correlation between chronological age and tested achievement. The negative correlation is fairly consistent for all variables from age 17 to 24, after which the relation becomes slightly positive; but the relation between age and average scores in General Science and General Mathematics is not far from zero throughout.

In Chart 5 means are graphed in terms of national percentiles, and since the national distributions show varying degrees of positive and negative skewness, the lines connecting

the averages of the different tests are rather widely separated, some appearing too high and some too low, according to the degree and direction of skewness. Similar but less obvious discrepancies appear in some of the other charts. Throughout this report an effort has been made to make all comparisons in terms of national sophomore percentiles, partly because of the more widespread familiarity with the percentile scale, and partly because of the lesser expense of preparing the report in this way. In calculating the averages of sub-

TABLE 7.—Correlations between 1933 and 1934 sophomore averages of colleges that participated in both programs, with corresponding correlations for 1932-1933. Data on some of the variables were not available for all colleges.

Variable	N (No. of Pairs of College Averages)	Correlations 1933–1934	Corresponding Correlations 1932–1933
Chronological Age	71	0.85	0.82
College Grade	64	0.51	0.44
Tests:			
History and Social Studies	61	0.83	0.65
Foreign Literature	61	0.91	0.54
Fine Arts	61	0.90	0.68
Total General Culture	61	0.90	
Usage	66	0.76	
Spelling	66	0.74	
Vocabulary	66	0.77	
Total English	66	0.79	0.68
Literary Acquaintance	65	0.74	
General Science	39	0.83	0.55
General Mathematics	33	0.65	

groups, as of a college, or an age or professional group, it has been less expensive and more expeditious to calculate means rather than medians, hence the unusual procedure of charting and tabulating means in terms of percentiles, arranged to approximate a sigma scale, as in Chart 1. However, the apparent distortion would have been as great if we had derived percentile from sigma scales, instead of the reverse; and for those who may wish to make more exact statistical analyses, the national means and sigmas for each variable are given in Tables 1 and 2.

Comparison of Men and Women Sophomores.—The men and women sophomores who took the tests are equal in only one of the tests, General Culture. The women are slightly superior on the average in college grade and English, slightly inferior in Contemporary Affairs, and nearly two sigmas inferior in General Science and General Mathematics.

Relations between 1933 and 1934 Standings of Colleges That Participated in Both Programs.—The fact that 70-odd colleges participated in both the 1933 and 1934 programs makes possible some very interesting comparisons of the relative standings of the 1933 and 1934 sophomore classes in these colleges. The relations are summarized in terms of correlations in Table 7.

The correlation coefficients for 1933-1934 standings are all much higher than corresponding coefficients for 1932-1933 (see EDUCATIONAL RECORD, October, 1933), with the single exception of the correlation coefficient of average chronological age, which is about the same (0.85 as against 0.82). The higher coefficients are probably due mainly to the fact that the tests used in 1933-1934 are much more closely parallel in content and structure than the two sets of tests used in 1932 and 1933. The tests used in 1932 were the Pennsylvania Study tests constructed by the Carnegie Foundation, while those used in 1933 and 1934 were successive annual forms of the Cooperative tests, constructed by the same authors in accordance with the same structural plan and content outline.

The lowest correlation coefficient is that for average college grade, as in 1932-1933.

IV. COMPARISON OF COLLEGE CLASSES

College Class Percentiles.—From some points of view the most interesting and significant data yielded by the 1934 testing program are those which enable us to compare two or more classes in the same college or group of colleges. About two dozen colleges tested significant numbers of students in at least two classes, but only four colleges tested students in all

TABLE 8.—Freshman, sophomore, junior, and senior class percentiles based on all returns from four colleges that gave the tests to all four classes.

Test	Total General Culture				Total English				Literary Acquaintance				
No. of Cases	431	327	235	157	241	221	159	100	243	218	159	100	
Mean	155	165	187	198	140	154	162	151	51	56	64	57	
Sigma	81.3	85.9	95.1	97.9	43.9	39.1	40.8	44.3	23.8	25.4	28.8	25.5	
Class	Fresh.	Soph.	Junior	Senior	Fresh.	Soph.	Junior	Senior	Fresh.	Soph.	Junior	Senior	
Percentiles													%iles
100	424	518	479	626	239	241	250	244	127	143	137	154	100
98	366	392	416	488	218	230	229	237	109	112	125	131	98
93	294	305	347	350	201	207	217	209	91	99	109	90	93
90	266	280	321	316	194	203	209	207	86	94	105	85	90
84	242	247	282	279	189	197	202	195	78	84	93	79	84
80	218	236	268	264	183	190	199	190	73	79	89	75	80
75	199	217	241	239	176	181	195	186	66	74	87	71	75
70	186	197	228	227	170	177	191	179	62	68	79	67	70
60	161	167	206	206	157	167	180	170	55	57	72	60	60
50	140	147	168	184	141	156	165	158	49	53	63	54	50
40	119	130	145	163	126	144	154	136	43	47	56	47	40
30	102	109	126	140	113	131	142	123	36	39	48	42	30
25	94	101	113	124	108	128	136	119	31	37	41	39	25
20	85	92	101	114	101	123	129	111	30	34	35	37	20
16	78	83	91	108	96	116	114	103	28	31	31	33	16
10	63	67	74	94	82	104	101	99	24	28	26	30	10
7	55	61	67	84	74	90	99	93	21	23	23	26	7
3	41	48	54	69	52	79	74	69	14	18	17	22	3
1	28	36	44	61	36	58	64	52	9	15	13	14	1

TABLE 8.—*Continued*

Test	Contemporary Affairs				General Science				General Mathematics				
No. of Cases	324	189	156	101	205	136	48	38	121	58	45	32	
Mean	86	95	100	104	37	46	56	54	39	50	47	47	
Sigma	41.2	39.8	44.9	43.0	24.6	22.7	24.7	20.6	19.4	21.7	19.5	21.5	
Class	Fresh.	Soph.	Junior	Senior	Fresh.	Soph.	Junior	Senior	Fresh.	Soph.	Junior	Senior	
Percentiles													%iles
100	234	200	215	223	131	106	140	97	106	99	96	87	100
98	170	181	204	205	100	97	140	97	87	92	96	87	98
93	155	155	170	168	75	83	87	88	74	83	71	79	93
90	148	150	159	153	67	79	85	83	64	82	71	77	90
84	128	139	149	139	63	73	76	73	58	72	68	70	84
80	120	132	144	131	57	67	75	69	53	69	66	66	80
75	115	126	133	128	50	64	75	67	51	68	56	63	75
70	103	116	123	121	46	58	73	64	48	66	54	60	70
60	89	105	109	113	38	49	63	58	39	57	51	55	60
50	80	92	96	105	31	42	51	57	36	49	46	50	50
40	69	82	88	94	27	37	46	50	31	45	44	38	40
30	62	71	76	87	21	31	38	40	28	38	33	35	30
25	56	67	66	74	19	29	37	38	25	34	31	33	25
20	50	58	57	68	16	26	35	29	23	28	27	25	20
16	45	55	50	65	13	22	30	28	21	25	27	21	16
10	34	44	42	51	9	20	26	23	18	18	24	16	10
7	32	40	35	34	8	16	25	22	15	18	24	16	7
3	20	30	26	30	4	12	17	21	13	13	17	10	3
1	14	19	21	18	2	6	17	18	12	11	8	10	1

four classes. Abbreviated percentiles for the consolidated classes in these colleges are shown in Table 8. These percentiles are given for their general interest and to enable these colleges to study their individual students in the four classes in terms of their own class percentiles. The small numbers of colleges and cases involved in Table 8 make these percentiles less significant than those in Table 1, but they may be of service in special studies undertaken in the colleges that have made this interesting table possible. The committee suggests

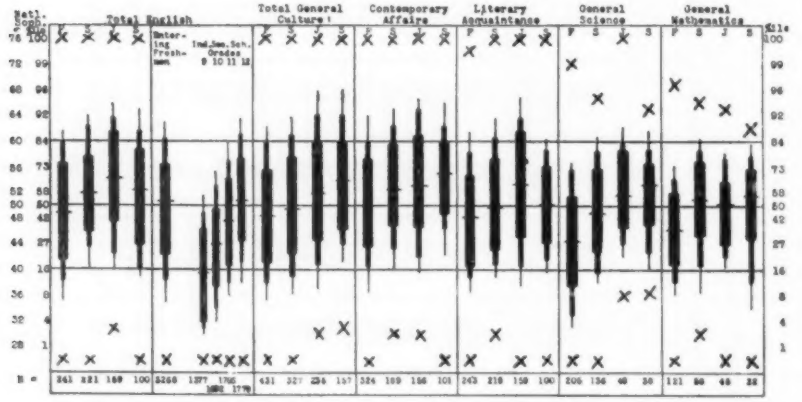


CHART 6.—Comparison of college classes. Graphs of scores on indicated tests of freshmen, sophomores, juniors, and seniors in the four colleges that tested all four classes. The class percentiles are graphed in terms of national sophomore percentiles arranged as in Chart 1. All available cases on each test have been included. Varying numbers of the four colleges either omitted or made optional the General Science and General Mathematics tests in one or more of the classes; hence the indications from these tests should be taken with caution.

For comparative purposes, the distributions of comparable English test scores of entering college freshmen and of ninth, tenth, eleventh, and twelfth grade classes in independent secondary schools are graphed beside the English test graphs of the college classes. (Cf. Chart 1.)

that larger numbers of colleges test all four classes in the 1935 program.

Overlapping of College Classes.—The overlapping of college classes indicated in Table 8 is shown graphically in Chart 6. In general, the class medians rise from freshmen to senior classes, except that the senior medians in English and Literary Acquaintance are lower than the junior medians, and

in General Mathematics the junior median is slightly lower than the sophomore median. On the English test, the senior median recedes from the junior median less than on any other test, but even this slight recession is in strong contrast with the large advance made by the twelfth over the eleventh grade in independent secondary schools.

Of far greater significance, however, is the fact that even the largest differences in medians are small in comparison with the variability of the classes, and the further fact that the variability is approximately equal in all classes. In a basic subject matter such as English there are about as many very good students in the freshman as in the senior class, and nearly as many very poor students in the senior as in the freshman class. The near-equality of the class medians might appear acceptable if the senior distribution were truncated at the bottom. The presence in the senior class as in the freshman class of nearly the same proportion of students below the tenth grade median for independent schools is enough to give one pause; and the fact can hardly be explained except on the grounds that time-serving rather than achievement furnishes the basis of promotion from freshman to senior class. It is more than probable that these students achieve social and some intellectual values in passing from the freshman to the senior class; but it seems clear that whatever the nature of these values may be, they are not dependent upon the type of literacy measured by the English test used in this program. Nearly a third of the college seniors in these five colleges are below the median of the freshmen, more than a third of the seniors are below the twelfth grade independent school median, about a fourth of the college seniors are below the tenth grade median, and nearly ten per cent are below the ninth grade median.

Comparison of Class Averages of All Colleges That Tested Two or More Classes.—The averages on the English, General Culture, and Contemporary Affairs tests of the individual colleges in Chart 6, and of one or two other colleges that tested three classes, are shown graphically in Chart 7. The averages of most of these colleges rise from freshman to senior classes,

but there are two large reversals on the Contemporary Affairs test, and at least one large reversal on the English test. But in none of these colleges are the differences between the averages large in comparison with the variability within classes displayed in Chart 6, or in comparison with the differences between corresponding class averages in different colleges.

The evidence from all these tests, as summarized in all

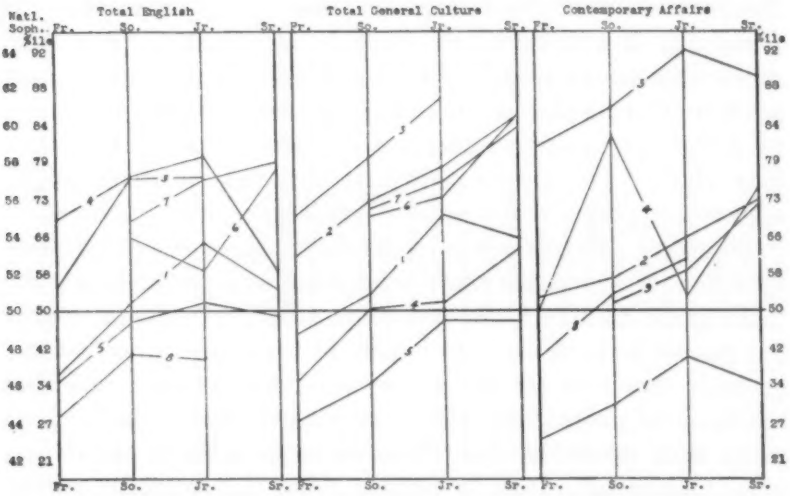


CHART 7.—Graphs of class averages on the English, General Culture, and Contemporary Affairs tests of individual colleges that tested three or four classes. The college class means are graphed in terms of national sophomore percentiles, arranged as in Chart 1. The identification numbers of the colleges are arbitrarily assigned.

preceding tables and charts, indicates that the basis of credits and of classification of students within colleges is very similar to the basis on which institutional accreditation was granted prior to the recently promulgated changes of the North Central Association (see page 477). It is obvious that both individual credits and institutional accreditation have been granted on the basis of conditions, influences, and conduct which, although important for certain purposes, are far from being determiners or adequate criteria of the types of achievement measured by the tests used in this program. It

seems clear from the available evidence that institutional accreditation is at least as well founded and as accurately and consistently administered as the granting of credits to individual students within institutions. The ambiguities of institutional accreditation have derived from the same weakness as the ambiguities of credits within single institutions—the subjectivity, lack of comparability, and partial irrelevance of the measures used. The committee views with great hopefulness the reforms in accreditation procedures recently adopted by the North Central Association.

V. THE COLLEGE PHYSICS PROGRAM

Among the most promising developments in education are the departmental programs growing out of the sophomore surveys of past years. One of these, that in physics, is sufficiently resolved to warrant reporting; others are in process of gaining ground. Since the complete report of the physics project appears in the *American Physics Teacher,* September, 1934, Supplement, it will be necessary only briefly here to recount it. When the project was first considered, President Karl T. Compton remarked editorially as follows:

"It is reasonable that this new venture is but the first of a series which will stimulate interest in and improve the quality of the teaching of college physics. . . . Being unofficial and optional it does not curtail the freedom of any school to set its own standards and give its own examinations in accordance with its own particular and local interests. . . . Speaking for the American Institute of Physics, I am sure that this new move will be generally approved and its broader educational results watched with interest." [8]

Thanks are due to the Committee on Tests of the American Association of Physics Teachers for their collaboration in editing the tests, conducting the program, and reporting the results. The following physicists composed the committee: H. W. Farwell, Columbia University; C. J. Lapp, University of Iowa (Chairman); Frederic Palmer, Jr., Haverford

[8] *The American Physics Teacher,* December, 1933.

TABLE 9.—National percentile scales for the Cooperative Physics Tests given to college students in 1934. The scales are based upon returns for students tested after studying the various topics and show true percentiles, calculated from the distribution of scores. The scales are based on all returns received on or before March 1 for the first semester tests and July 1 for the second semester tests.

Each score in each column shows the upper score limit of the percentile indicated at the extreme right and left of the line. For example, the bottom entry in the column for total score on Mechanics and Heat shows that all scores of 4 or below have a percentile value of 1; all scores of 5 or 6 have a percentile value of 2; and all scores above 61 have a percentile value of 100. Since colleges used varying combinations of tests, the numbers of cases and of colleges vary from column to column. The mean and sigma of the scores and the number of colleges involved in each column are shown at the top of each column. When a score appears on a scale more than once, use the figure not in parenthesis.

	Mech.	Heat	Sound	Light	Elec.	Mod. Phys.	Mech. + Heat	Mech. Heat Sound	Light + Elec.	Lt., Elec., Mod. Phys.	
No. of Colleges.	180	169	93	112	108	61	85	76	97	54	
No. of Cases...	7,957	7,440	3,741	4,936	5,149	1,837	3,598	3,234	4,305	1,714	
Mean.....	18.3	11.0	8.1	12.5	17.3	6.2	28.7	38.2	29.9	37.3	
Sigma.....	8.8	5.6	3.9	5.7	6.9	3.7	13.0	16.3	11.4	14.8	
Percentiles											%iles
100	48	27	16	33	43	19	71	86	73	91	100
99	40	24	(16)	27	35	16	61	76	59	76	99
98	38	23	15	25	33	15	58	73	56	71	98
97	36	22	(15)	24	31	14	55	71	53	69	97
96	35	21	(15)	(24)	30	13	53	68	51	66	96
95	34	(21)	(15)	23	29	(13)	52	66	50	64	95
94	33	20	(15)	22	(29)	(13)	51	65	49	62	94
93	32	(20)	14	(22)	28	12	49	63	48	61	93
92	31	19	13	21	27	(12)	48	62	47	60	92
91	(31)	(19)	(13)	(21)	(27)	(12)	47	61	46	58	91
90	30	(19)	(13)	20	(27)	11	(47)	60	45	57	90
88	29	18	(13)	(20)	26	(11)	45	58	43	55	88
86	28	(18)	12	19	25	10	44	56	42	53	86
84	27	17	(12)	18	24	(10)	42	55	41	52	84
82	26	(17)	(12)	(18)	(24)	(10)	41	53	40	51	82
80	(26)	16	(12)	17	23	9	40	52	39	49	80
75	24	15	11	16	22	(9)	37	49	37	47	75
70	23	14	(11)	15	21	8	35	47	35	44	70
65	21	13	10	14	20	7	33	44	34	42	65
60	20	12	9	(14)	19	(7)	31	42	32	40	60
55	19	11	(9)	13	18	6	29	40	31	38	55
50	18	(11)	8	12	17	(6)	28	38	29	36	50
45	17	10	(8)	11	16	5	26	36	28	34	45
40	16	9	7	(11)	15	(5)	24	34	26	32	40
35	14	8	(7)	10	14	4	23	31	25	30	35
30	13	(8)	6	9	13	(4)	21	28	24	28	30
25	12	7	5	8	12	3	19	26	22	26	25
20	11	6	4	(8)	11	(3)	17	24	20	24	20
18	10	5	(4)	7	(11)	(3)	(17)	22	19	(24)	18
16	9	(5)	(4)	(7)	10	2	16	21	18	23	16
14	(9)	(5)	(4)	6	(10)	(2)	15	20	(18)	22	14
12	8	4	3	(6)	9	(2)	14	19	17	20	12
10	7	(4)	(3)	5	(9)	(2)	12	17	16	19	10
9	(7)	3	(3)	(5)	8	1	(12)	(17)	15	(19)	9
8	6	(3)	2	(5)	(8)	(1)	11	16	(15)	18	8
7	(6)	(3)	(2)	(5)	7	(1)	10	15	14	(18)	7
6	5	2	(2)	4	(7)	(1)	(10)	13	13	17	6
5	(5)	(2)	1	(4)	(7)	0	9	12	12	16	5
4	4	(2)	(1)	3	6	(0)	8	11	11	14	4
3	3	1	(1)	(3)	5	(0)	7	9	10	13	3
2	2	0	0	2	4	(0)	6	8	9	11	2
1	0	(0)	(0)	1	3	(0)	4	6	7	9	1

College; John T. Tate, University of Minnesota; A. G. Worthing, University of Pittsburgh. Acknowledgment is also owing to the 355 college departments which supported the program and to 150 individual physicists who made suggestions and offered criticism on the conduct of the project.

It should be noted in passing that not all of the 355 departments reported their results, and that some departments made returns too late to be included in the tables of norms. Differences in numbers in Table 9, National Percentiles, and Table 10, Distribution of College Averages, are thus accounted for.

TABLE 10.—Distribution of college averages. College means on the six topics and on four combinations of topics are here distributed in terms of national percentiles. Although the distribution is based on percentiles the scale has been corrected against the sigma scale background. The number of colleges in this table is larger than in Table 9, since all averages received on or before June 25, 1934, are included.

	Mech.	Heat	Sound	Light	Elec.	Mod. Phys.	Mech. + Heat	Mech. + Heat + Sound	Light + Elec.	Lt., Elec., Mod. Phys.	
No. Colleges..	214	217	155	130	130	64	97	95	107	57	
No. Students..	8,911	9,104	6,215	5,673	6,010	1,887	4,022	3,675	4,642	1,762	
Percentiles											%iles
96—97	1								1		96—97
94—95				1	2		1				94—95
92—93	1	3	1	1	1		1		2		92—93
88—91	5	3		1	3	1	4	1	2	3	88—91
84—87	1	4	8	3	2	3	1	2	1		84—87
79—83	8	9	10	6	2	3	3	3	4	1	79—83
73—78	20	20	11	5	7	9	7	11	3	4	73—78
66—72	17	31	26	15	21		10	5	17	6	66—72
58—65	35	31	27	12	15	11	17	22	19	5	58—65
50—57	41	27	34	30	19	15	9	15	8	12	50—57
42—49	27	21	16	17	14	10	15	12	12	6	42—49
34—41	28	39	9	10	17	9	14	9	10	10	34—41
27—33	4	9	9	12	10		3	6	11	4	27—33
21—26	12	15	1	5	4	1	7	1	5	3	21—26
16—20	10	2	2	4	6		2	4	5	1	16—20
12—15	3	1	1	5	4	1	2	3	6	1	12—15
8—11	1	2		2	3	1	1				8—11
6— 7								1	1		6— 7
4— 5				1						1	4— 5

The Tests.—The tests were constructed to sample the content of elementary physics and to permit the making of comparable forms. Thus companion forms might be used before and after any given course in elementary physics to measure growth in the subject, and the difference obtained could be regarded as a tentative norm of expectancy for future classes.

Originally the topics of mechanics, heat, and sound were planned for one combined form, and light, electricity and modern physics for the other. Subsequently, however, in answer to demands for atypical combinations, six topics were printed separately as follows: Mechanics, 48 items, 60 minutes; Heat, 27 items, 30 minutes; Sound, 16 items, 20 minutes; Light, 35 items, 40 minutes; Electricity, 44 items, 50 minutes; Modern Physics, 19 items, 25 minutes. Since specialization in physics usually follows and is predicated upon the elementary course, it is recommended that departments continue to use combinations of the topics for diagnostic purposes and for identifying students whose general grasp of elementary physics is unusual. This practice seems more reasonable for the selection of advanced students and even for identifying special interests than one which would restrict measurement too narrowly to those topics of peculiar interest to a given instructor.

National Percentiles.—Table 9 enables each college to find the percentile rank of each student on each topic. From this table it is evident that the tests are well adjusted in difficulty for participating colleges. The scores are not piled up at either end; hence there is room at the top and bottom for differentiating good and poor students.

College Averages.—The variability of scores within each college group will not be shown here; but the fact that this variability was more striking than differences between groups makes it necessary to interpret any distribution of averages with caution. Any college, by referring its average scores to Table 10, may identify its relative position among the participating groups.

Gains in Achievement.—The test results of those colleges administering tests before and after study were analyzed to discover the average gain of all students without regard to type of school, and of student groups in colleges making the largest and smallest gains.

The amount of gain within single colleges varies markedly. These differences, however, are not subject to direct comparison, since the abilities and aptitudes and needs vary from college to college. The average gain for all students is of gen-

eral interest; the gain of any one is of interest only to that college. It must be kept in mind that the average class gain must be interpreted in the light of local conditions. Each college must set up its own norms of expectancy, and the deviations from this norm may be analyzed with reference to the individual case. Individual differences cover a wider range, and are educationally more significant than the variations occurring between groups. Charting of single case gains can not be done in this study; it may be done, however, by each department to determine differences in growth. Doubtless some such charts will be startling. Within the same class, some students will make tremendous gains in achievement, others will make little or none. Those deviations which are most marked may be investigated with a view to further clinical diagnosis and educational guidance. But the average gain for the school is most significant when it is taken as the point of reference for the interpretation of the individual gain.

In this connection, it is difficult to exaggerate the importance of the variability of scores in the pre-study groups. All teachers in physics and other subjects are only too painfully aware of the variability in post-study groups, because there are too few classes in which some students are not "flunked"; but not many teachers are clearly aware of the highly important and encouraging fact that a few students at the *beginning* of a course are already able to equal or exceed the average of the whole class at the *end* of the course. Chart 8 shows that in Light, at least one student at the beginning was above the average of the class at the end of the semester; and in both Electricity and Modern Physics one student at the beginning secured a score which was achieved only by the highest one percent of the class at the end. In Electricity about 5 per cent of the pupils secured pre-study scores above the post-study average score of the entire group that took the tests.

The advantages of early identification of such promising pupils are obvious, and it is gratifying to note that during the last few years the search for and special study of such pupils has been a growing concern of an increasing number of teachers of physics and other subjects. Of course, no single

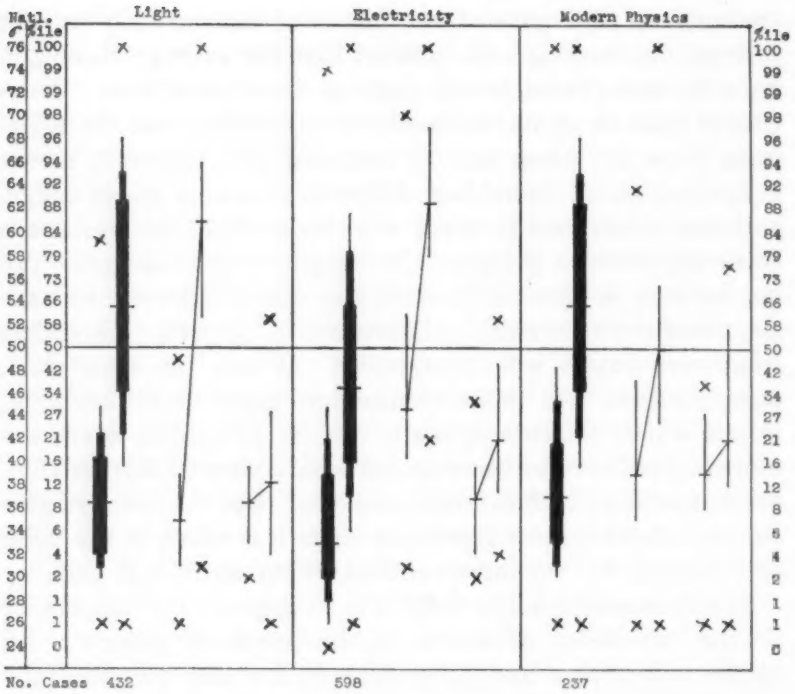


CHART 8 represents pre- and post-study comparisons for Light, Electricity, and Modern Physics. The two bars at the left of each section represent distribution of scores of all students who took the tests before and after study. The two following figures (light lines) represent the pre- and post-study results for the two colleges having the largest and the smallest gains in each topic. The range of scores is represented by the crosses; the middle 50 per cent by the heavy bar; the middle two-thirds by the narrow bar; and the 10th and 90th percentiles by the light lines.

test can be expected to give a fully trustworthy index of even one of the many qualities required for a productive career in physics, but any student who *before* formal instruction secures a higher score than the average student secures *after* formal instruction is at least worthy of being studied. Some of them very richly reward the teacher who vouchsafes them special attention and encouragement.

The students at the other end of the scale also merit special attention. Some of them after taking a full course, at the expense of the state or of their parents, are still in the score-range of the lowest one per cent of those who are tested at

the beginning of the course. Some of these students work harder than the majority of those who make large gains and passing grades; while it is obvious that they do not deserve, or rather that their lot will not be improved (and might be aggravated) by, passing grades *in physics,* it is the opinion of a growing number of educators that such students do deserve something more constructive and helpful for their time and money than merely a flunking grade. It is equally true that society deserves more for the time and money spent on such pupils than the mere stigmatizing of them as "failures." The question of what to do for such students can be answered only by careful and long continued experimentation. An essential part of such experimentation will be a surer identification of such students, and a more adequate study of their growth along various lines of development. Growth cannot be studied without comparable measures; hence the emphasis which the Committee has placed on the importance of developing *comparable* tests.

Sex Differences.—It is a well-known fact, derived from numerous studies, that certain characteristic differences in achievement occur between men and women. Women are generally superior in literature and language subjects but generally inferior in mathematics and science. The mean differences, however, seem to be small in relation to the variability of either sex groups; the overlapping is usually quite extensive. Chart 9 shows the medians of men and women on each topic of the physics test. It is difficult at this time to account surely for the fluctuations in medians for the women's group, but they are doubtless due in part at least to sampling differences.

The data of Chart 9 should not obscure the importance of individual scores. Within both sex groups individual differences are more important than group differences. The superior student, regardless of sex, should be identified, encouraged to continue in subjects for which he displays a particular flair, and given special work if such seems desirable to the department head in the light of all relevant data and circumstances. One department head has suggested that it

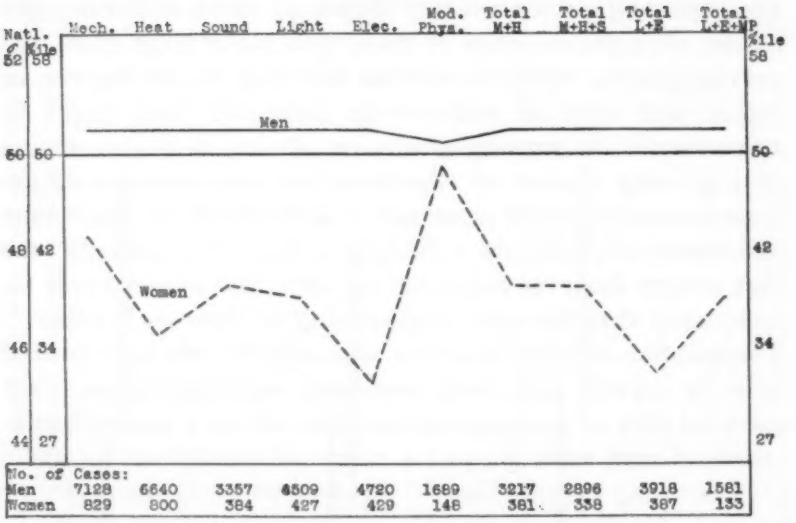


CHART 9.—Sex differences; median scores for men and women graphed in national percentiles scaled to sigma units. The numbers of cases are indicated at the bottom of the chart.

may be a greater contribution to turn out one gifted research scholar than to turn out a hundred "pass" students each year. But there is no necessary conflict between these two types of contributions. Physics has rich cultural as well as disciplinary and scholarly values; special care of the few gifted pupils does not mean that the less gifted pupils need to be neglected or sacrificed on the high standards which are appropriate only to gifted pupils.

VI. CONCLUSIONS

This opportunity is taken to acknowledge obligations to those colleges which cooperated in the 1934 program and made it a success. Thanks are especially due to administrators and teachers who have offered their criticisms and suggestions to the committee and who have taken pains to describe the uses to which they have put test results and the efforts they have made toward systematic diagnosis and guidance of the individual.

A concept of education as broad as that described in this report and involving a multitude of factors which could not

be touched upon in the foregoing pages does not lend itself to simple analysis. For this reason the generalizations which follow must be taken more as suggestions than as final conclusions.

By means of the college averages each school may compare its achievement with that of any other, but obviously such comparison is not the major purpose of the program. It was conceived like those of past years to uncover some of the factors which are diagnostic—for the administrator, the instructor, and the student. For this purpose variability in achievement was measured; the national percentile tables were drawn up so that a student's score could be interpreted against national norms; and various group differences were tabulated and analyzed. The fact that colleges differ markedly in average achievement must be interpreted in the light of local conditions and of the unique objectives set by the college itself. For constructive education, individual deviations from group or class averages are more significant than college deviations from the national averages.

The extent of overlapping of professional goal groups, of age groups, of men and women, and of college classes make it increasingly apparent that group education does not level out individual differences. Rather these differences obtain in spite of relatively uniform classroom procedures.

Such generalizations as can be drawn from the data of the report tend to call into question the conventional classroom and laboratory practices designed for group instruction. Although these practices are doubtless excellent as points of departure, the extent of variation in student performance calls attention to the need for revaluing the teaching function. There is evidence to indicate that the amount of time devoted purely to group instruction is decreasing and that man to man relations between teacher and student are coming to be recognized as the most promising complement to classroom work.

If education is to be individualized without tremendous waste, students must be analyzed to determine their interests as these are revealed by what they have already learned. Quantitative measurement of their achievement is the point of

departure for making individualized education available to them. From such information the teacher may work outward to the more difficult problem of guiding the student further in the light of his peculiar character traits, his degree of initiative, and his ability to carry out independent, self-initiated study. Systematic records kept over a period of time should prove highly significant in the selection of students for advanced or graduate work and for placing graduates in responsible positions in industry, in teaching, and in research. Such a concept of the teaching function makes the teacher not less important but rather more important. His obligation as scientist and as artist thus becomes extended rather than restricted.

With thanks for the splendid spirit of cooperation shown by colleges collaborating in the research, the committee submits its report to the participating schools. It is believed that even larger numbers will aid in continuing the program next year and that even more extensive and varied uses of the results will be made for individual diagnosis and guidance. In anticipation of the program for the coming year, each department taking part in the present survey should inform the committee about local researches and clinical guidance so that those seeking help in individualizing education may thus profit.

Respectfully submitted,

THE COMMITTEE ON EDUCATIONAL TESTING,

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Accredited Higher Institutions

IN 1924 the American Council on Education approved and published two reports of its Committee on Standards, recommending uniform standards as criteria for accrediting colleges, teacher-training institutions and junior colleges. Since then the various regional associations have worked continuously on this problem, have revised their respective lists each year and are gradually working toward uniform standards.

The following list is merely a compilation as of October 1, 1934, of the lists of the established accrediting agencies; namely, the Association of American Universities, the Middle States Association of Colleges and Secondary Schools, the North Central Association of Colleges and Secondary Schools, the Northwest Association of Secondary and Higher Schools and the Southern Association of Colleges and Secondary Schools.

In the New England Association of Colleges and Secondary Schools, the standards set up for institutional membership are equivalent to those required for accrediting by the other regional associations. Therefore the institutional members of the New England Association are also included in this list.

It will be noted that the five regional associations of colleges and secondary schools just mentioned cover among them the entire United States with the exception of the far southwest. Hence institutions in that region would not appear in the following list unless they appear on the list of the Association of American Universities, which is a national list.

The American Council on Education has printed as a separate pamphlet its recommendations concerning standards for accrediting higher institutions. Copies of this pamphlet and of the accompanying list will be sent without charge on request, addressed to the office of the Council.

ALABAMA

Alabama College, Montevallo
Alabama Polytechnic Institute, Auburn
Birmingham-Southern College, Birmingham
Howard College, Birmingham
Judson College, Marion
Spring Hill College, Spring Hill
Talladega College, Talladega
Tuskeegee Normal and Industrial Institute, Tuskeegee
University of Alabama, University
Woman's College of Alabama, Montgomery

ALASKA

Alaska College of Agriculture and School of Mines, Fairbanks

ARIZONA

Arizona State Teachers College, Flagstaff
Arizona State Teachers College, Tempe
University of Arizona, Tucson

ARKANSAS

Arkansas State Teachers College, Conway
Henderson State Teachers College, Arkadelphia
Hendrix College, Conway
State Agricultural and Mechanical College, Jonesboro
University of Arkansas, Fayetteville

CALIFORNIA

California Institute of Technology, Pasadena
Claremont Colleges (Pomona; Scripps), Claremont
College of the Holy Names, Oakland
College of the Pacific, Stockton
Dominican College of San Rafael, San Rafael
Immaculate Heart College, Hollywood
Loyola University, Los Angeles
Mills College, Oakland
Mt. St. Mary's College, Los Angeles
Occidental College, Los Angeles
Pacific Union College, Angwin
San Francisco College for Women, San Francisco
St. Mary's College, St. Mary's

Stanford University, Stanford University
University of California, Berkeley
University of California, Los Angeles
University of Redlands, Redlands
University of Santa Clara, Santa Clara
University of San Francisco, San Francisco
University of Southern California, Los Angeles
Whittier College, Whittier

COLORADO

Colorado Agricultural College, Fort Collins
Colorado College, Colorado Springs
Colorado School of Mines, Golden
Colorado State Teachers College, Greeley
Loretto Heights College, Denver
University of Colorado, Boulder
University of Denver, Denver
Western State College of Colorado, Gunnison

CONNECTICUT

Albertus Magnus College, New Haven
Connecticut State College, Storrs
Connecticut College for Women, New London
Trinity College, Hartford
Wesleyan University, Middletown
Yale University, New Haven

DELAWARE

University of Delaware, Newark

DISTRICT OF COLUMBIA

American University, Washington, D. C.
Catholic University of America, Washington, D. C.
George Washington University, Washington, D. C.
Georgetown University, Washington, D. C.
Howard University, Washington, D. C.
Trinity College, Washington, D. C.

FLORIDA

Florida State College for Women, Tallahassee
John B. Stetson University, De Land
Rollins College, Winter Park
University of Florida, Gainesville

GEORGIA

Agnes Scott College, Decatur
Atlanta University, Atlanta
Brenau College, Gainesville
Emory University, Atlanta
Georgia School of Technology, Atlanta
Georgia State College for Women, Milledgeville
Georgia State Women's College, Valdosta
Mercer University, Macon
Morehouse College, Atlanta
Shorter College for Women, Rome
Spelman College, Atlanta
University of Georgia, Athens
Wesleyan College, Macon

HAWAII

University of Hawaii, Honolulu

IDAHO

College of Idaho, Caldwell
University of Idaho, Moscow

ILLINOIS

Armour Institute of Technology, Chicago
Augustana College and Theological Seminary, Rock Island
Bradley Polytechnic Institute, Peoria
Carthage College, Carthage
De Paul University, Chicago
Elmhurst College, Elmhurst
Eureka College, Eureka
Illinois College, Jacksonville
Illinois State Normal University, Normal
Illinois State Normal University (Southern), Carbondale
Illinois State Teachers College (Eastern), Charleston
Illinois State Teachers College (Northern), De Kalb
Illinois State Teachers College (Western), Macomb
Illinois Wesleyan University, Bloomington
James Millikin University, Decatur
Knox College, Galesburg
Lake Forest College, Lake Forest
Lewis Institute, Chicago
Loyola University, Chicago
MacMurray College for Women, Jacksonville
Monmouth College, Monmouth
North Central College, Naperville
Northwestern University, Evanston
Rockford College, Rockford
Rosary College, River Forest
Shurtleff College, Alton
University of Chicago, Chicago
University of Illinois, Urbana
Wheaton College, Wheaton

INDIANA

Ball State Teachers College, Muncie
Butler University, Indianapolis
De Pauw University, Greencastle
Earlham College, Richmond
Evansville College, Evansville
Franklin College of Indiana, Franklin
Hanover College, Hanover
Indiana State Teachers College, Terre Haute
Indiana University, Bloomington
Manchester College, North Manchester
Purdue University, Lafayette
Rose Polytechnic Institute, Terre Haute
St. Mary's College, Notre Dame
St. Mary of the Woods College, St. Mary of the Woods
University of Notre Dame du Lac, Notre Dame

Valparaiso University, Valparaiso
Wabash College, Crawfordsville

IOWA

Clarke College, Dubuque
Coe College, Cedar Rapids
Columbia College of Dubuque, Dubuque
Cornell College, Mt. Vernon
Drake University, Des Moines
Grinnell College, Grinnell
Iowa State College of Agriculture and Mechanic Arts, Ames
Iowa State Teachers College, Cedar Falls
Iowa Wesleyan College, Mt. Pleasant
Luther College, Decorah
Morningside College, Sioux City
Parsons College, Fairfield
St. Ambrose College, Davenport
Simpson College, Indianola
University of Dubuque, Dubuque
University of Iowa, Iowa City

KANSAS

Baker University, Baldwin
Bethany College, Lindsborg
College of Emporia, Emporia
Fort Hays Kansas State College, Hays
Friends University, Wichita
Kansas State College of Agriculture and Applied Science, Manhattan
Kansas State Teachers College of Emporia, Emporia
Kansas State Teachers College, Pittsburg
Marymount College, Salina
Mount St. Scholastica College, Atchison
Municipal University of Wichita, Wichita
Ottawa University, Ottawa
Southwestern College, Winfield
St. Benedict's College, Atchison
Sterling College, Sterling
The St. Mary College, Leavenworth
University of Kansas, Lawrence
Washburn College, Topeka

KENTUCKY

Berea College, Berea
Centre College of Kentucky, Danville
Eastern Kentucky State Teachers College, Richmond
Georgetown College, Georgetown
Morehead State Teachers College, Morehead
Murray State Teachers College, Murray
Transylvania College, Lexington
Union College, Barbourville
University of Kentucky, Lexington
University of Louisville, Louisville
Western Kentucky State Teachers College, Bowling Green

LOUISIANA

Centenary College of Louisiana, Shreveport
Louisiana College, Pineville
Louisiana Polytechnic Institute, Ruston
Louisiana State University, Baton Rouge
Loyola University, New Orleans
Newcomb College, New Orleans
Southwestern Louisiana Institute, Lafayette
State Normal College, Natchitoches
Tulane University of Louisiana, New Orleans

MAINE

Bates College, Lewiston
Bowdoin College, Brunswick
Colby College, Waterville
University of Maine, Orono

MARYLAND

College of Notre Dame of Maryland, Baltimore
Goucher College, Baltimore
Hood College, Frederick
Johns Hopkins University, Baltimore
Loyola College, Baltimore
Morgan College, Baltimore
Mt. St. Mary's College, Emmitsburg
St. John's College, Annapolis
St. Joseph's College, Emmitsburg
United States Naval Academy, Annapolis
University of Maryland, College Park
Washington College, Chestertown
Western Maryland College, Westminster

MASSACHUSETTS

American International College, Springfield
Amherst College, Amherst
Boston College, Chestnut Hill
Boston University, Boston
Clark University, Worcester
College of the Holy Cross, Worcester
Emmanuel College, Boston
Harvard University, Cambridge
International Y. M. C. A. College, Springfield
Massachusetts Institute of Technology, Cambridge
Massachusetts State College, Amherst
Mt. Holyoke College, South Hadley
Radcliffe College, Cambridge
Regis College, Weston
Simmons College, Boston
Smith College, Northampton
Tufts College, Medford
Wellesley College, Wellesley
Wheaton College, Norton
Williams College, Williamstown
Worcester Polytechnic Institute, Worcester

MICHIGAN

Albion College, Albion
Alma College, Alma
Battle Creek College, Battle Creek
Calvin College, Grand Rapids
Hillsdale College of Michigan, Hillsdale
Hope College, Holland

Kalamazoo College, Kalamazoo
Marygrove College, Detroit
Michigan College of Mining and Technology, Houghton
Michigan State College of Agriculture and Applied Science, East Lansing
Michigan State Normal College, Ypsilanti
Michigan State Teachers College (Central), Mount Pleasant
Michigan State Teachers College (Western), Kalamazoo
Michigan State Teachers College (Northern), Marquette
University of Michigan, Ann Arbor
Wayne University, Detroit

MINNESOTA

Carleton College, Northfield
College of St. Benedict, St. Joseph
College of St. Catherine, St. Paul
College of St. Scholastica, Duluth
College of St. Teresa, Winona
College of St. Thomas, St. Paul
Concordia College, Moorhead
Gustavus Adolphus College, St. Peter
Hamline University, St. Paul
Macalester College, St. Paul
St. Olaf College, Northfield
University of Minnesota, Minneapolis

MISSISSIPPI

Blue Mountain College, Blue Mountain
Delta State Teachers College, Cleveland
Millsaps College, Jackson
Mississippi College, Clinton
Mississippi State College, State College
Mississippi State College for Women, Columbus
Mississippi State Teachers College, Hattiesburg
Mississippi Woman's College, Hattiesburg
University of Mississippi, University

MISSOURI

Central College, Fayette
Culver-Stockton College, Canton
Drury College, Springfield
Harris Teachers College, St. Louis
Lincoln University, Jefferson City
Lindenwood College, St. Charles
Missouri State Teachers College (Central), Warrensburg
Missouri State Teachers College (Northeast), Kirksville
Missouri State Teachers College (Northwest), Maryville
Missouri State Teachers College (Southeast), Cape Girardeau
Missouri State Teachers College (Southwest), Springfield
Missouri Valley College, Marshall
Park College, Parkville
St. Louis University, St. Louis
Tarkio College, Tarkio
University of Missouri, Columbia
Washington University, St. Louis
Webster College for Women, Webster Groves
Westminster College, Fulton
William Jewell College, Liberty

MONTANA

Intermountain Union College, Helena
Montana State College, Bozeman
Montana State School of Mines, Butte
Carroll College, Helena
State University of Montana, Missoula

NEBRASKA

Creighton University, Omaha
Doane College, Crete
Hastings College, Hastings
Nebraska State Teachers and Normal College, Chadron
Nebraska State Teachers College, Kearney
Nebraska State Teachers College, Wayne
Nebraska Wesleyan University, Lincoln
Peru State Teachers College, Peru
University of Nebraska, Lincoln

NEVADA

University of Nevada, Reno

NEW HAMPSHIRE

Dartmouth College, Hanover
University of New Hampshire, Durham

NEW JERSEY

Brothers College, Madison
College of St. Elizabeth, Convent Station
Georgian Court College, Lakewood
New Jersey College for Women, New Brunswick
Princeton University, Princeton
Rutgers University, New Brunswick
Seton Hall College, South Orange
Stevens Institute of Technology, Hoboken

NEW MEXICO

New Mexico College of Agriculture and Mechanic Arts, State College
University of New Mexico, Albuquerque

NEW YORK

Adelphi College, Garden City
Alfred University, Alfred
Barnard College, New York City
Brooklyn College, Brooklyn
Canisius College of Buffalo, Buffalo
City College, New York City
Clarkson School of Technology, Potsdam
Colgate University, Hamilton
College of Mt. St. Vincent, Mt. St. Vincent-on-Hudson

College of New Rochelle, New Rochelle
College of the Sacred Heart, New York City
College of St. Rose, Albany
Columbia University, New York City
Cornell University, Ithaca
D'Youville College, Buffalo
Elmira College, Elmira
Fordham University, Fordham
Good Counsel College, White Plains
Hamilton College, Clinton
Hobart College, Geneva
Hunter College of the City of New York, New York City
Keuka College, Keuka Park
Manhattan College, New York City
Marymount College, Tarrytown-on-Hudson
Nazareth College, Rochester
New York State College for Teachers, Albany
New York University, New York City
Niagara University, Niagara
Polytechnic Institute of Brooklyn, Brooklyn
Rensselaer Polytechnic Institute, Troy
Russell Sage College, Troy
St. Bonaventure's College and Seminary, St. Bonaventure
St. John's University, Brooklyn
St. Joseph's College for Women, Brooklyn
St. Lawrence University, Canton
St. Stephen's College, Annandale
Skidmore College, Saratoga Springs
Syracuse University, Syracuse
Union College, Schenectady
United States Military Academy, West Point
University of Buffalo, Buffalo
University of Rochester, Rochester
Vassar College, Poughkeepsie
Wells College, Aurora
William Smith College, Geneva

NORTH CAROLINA

Catawba College, Salisbury
Davidson College, Davidson
Duke University, Durham
East Carolina State Teachers College, Greenville
Greensboro College, Greensboro
Guilford College, Guilford College
Johnson C. Smith University, Charlotte
Lenoir-Rhyne College, Hickory
Meredith College, Raleigh
North Carolina College for Women, Greensboro
North Carolina State College of Agriculture and Engineering, Raleigh
Queens-Chicora College, Charlotte
Salem College, Winston-Salem
University of North Carolina, Chapel Hill
Wake Forest College, Wake Forest

NORTH DAKOTA

Jamestown College, Jamestown
North Dakota Agricultural College, Fargo
University of North Dakota, Grand Forks

OHIO

Antioch College, Yellow Springs
Baldwin Wallace College, Berea
Bowling Green State College, Bowling Green
Capital University, Columbus
Case School of Applied Science, Cleveland
College of Mt. St. Joseph on the Ohio, Mt. St. Joseph
College of Wooster, Wooster
Denison University, Granville
Findlay College, Findlay
Heidelberg College, Tiffin
Hiram College, Hiram
John Carroll University, Cleveland
Kent State College, Kent
Lake Erie College, Painesville
Marietta College, Marietta
Mary Manse College, Toledo
Miami University, Oxford
Mt. Union College, Alliance
Muskingum College, New Concord
Notre Dame College, South Euclid
Oberlin College, Oberlin
Ohio State University, Columbus
Ohio University, Athens
Ohio Wesleyan University, Delaware
Otterbein University, Westerville
St. Mary of the Springs College, East Columbus
University of Akron, Akron
University of Cincinnati, Cincinnati
University of the City of Toledo, Toledo
University of Dayton, Dayton
Ursuline College, Cleveland
Western College, Oxford
Western Reserve University, Cleveland
Wittenberg College, Springfield

OKLAHOMA

Oklahoma Agricultural and Mechanical College, Stillwater
Oklahoma College for Women, Chickasha
Phillips University, Enid
University of Oklahoma, Norman
University of Tulsa, Tulsa

OREGON

Albany College, Albany
Columbia University, Portland
Linfield College, McMinnville
Marylhurst College, Oswego
Mt. Angel College, Mt. Angel
Oregon State Agricultural College, Corvallis
Pacific University, Forest Grove

Reed College, Portland
University of Oregon, Eugene
Willamette University, Salem

PENNSYLVANIA

Albright College, Reading
Allegheny College, Meadville
Bryn Mawr College, Bryn Mawr
Bucknell University, Lewisburg
Carnegie Institute of Technology, Pittsburgh
Dickinson College, Carlisle
Drexel Institute, Philadelphia
Franklin and Marshall College, Lancaster
Geneva College, Beaver Falls
Gettysburg College, Gettysburg
Grove City College, Grove City
Haverford College, Haverford
Immaculata College, Immaculata
Juniata College, Huntingdon
Lafayette College, Easton
LaSalle College, Philadelphia
Lebanon Valley College, Annville
Lehigh University, Bethlehem
Lincoln University, Lincoln University
Marywood College, Scranton
Mercyhurst College, Erie
Moravian College and Theological Seminary, Bethlehem
Mt. St. Joseph College, Philadelphia
Muhlenberg College, Allentown
Pennsylvania College for Women, Pittsburgh
Pennsylvania State College, State College
Rosemont College, Rosemont
St. Joseph's College, Philadelphia
St. Thomas College, Scranton
St. Vincent College, Latrobe
Seton Hill College, Greensburg
Susquehanna University, Selinsgrove
Swarthmore College, Swarthmore
Temple University, Philadelphia
Thiel College, Greenville
University of Pennsylvania, Philadelphia
University of Pittsburgh, Pittsburgh
Ursinus College, Collegeville
Villa Marie College, Erie
Villanova College, Villanova
Washington and Jefferson College, Washington
Westminster College, New Wilmington
Wilson College, Chambersburg

RHODE ISLAND

Brown University, Providence
Pembroke College, Providence
Providence College, Providence
Rhode Island State College, Kingston

SOUTH CAROLINA

Clemson Agricultural College of South Carolina, Clemson
Coker College, Hartsville
College of Charleston, Charleston
Converse College, Spartanburg
Erskine College, Due West
Furman University, Greenville
Limestone College, Gaffney
Presbyterian College of South Carolina, Clinton
The Citadel, Charleston
University of South Carolina, Columbia
Winthrop College, Rock Hill
Wofford College, Spartanburg

SOUTH DAKOTA

Augustana College, Sioux Falls
Dakota Wesleyan University, Mitchell
Huron College, Huron
Sioux Falls College, Sioux Falls
South Dakota State College of Agriculture and Mechanic Arts, Brookings
South Dakota State School of Mines, Rapid City
University of South Dakota, Vermillion
Yankton College, Yankton

TENNESSEE

Carson-Newman College, Jefferson City
Fisk University, Nashville
George Peabody College for Teachers, Nashville
Maryville College, Maryville
Southwestern, Memphis
Tennessee State Teachers College, Johnson City
Tennessee State Teachers College, Memphis
Tennessee State Teachers College, Murfreesboro
Tusculum College, Greenville
University of Chattanooga, Chattanooga
University of the South, Sewanee
University of Tennessee, Knoxville
Vanderbilt University, Nashville

TEXAS

Agricultural and Mechanical College of Texas, College Station
Baylor College for Women, Belton
Baylor University, Waco
East Texas State Teachers College, Commerce
Incarnate Word College, San Antonio
North Texas State Teachers College, Denton
Our Lady of the Lake College, San Antonio
Rice Institute, Houston
Sam Houston State Teachers College, Huntsville
Simmons University, Abilene
Southern Methodist University, Dallas
Southwest Texas State Teachers College, San Marcos

Southwestern University, Georgetown
Stephen F. Austin State Teachers College, Nagadoches
Sul Ross State Teachers College, Alpine
Texas Christian University, Fort Worth
Texas College of Arts and Industries, Kingsville
Texas State College for Women, Denton
Texas Technological College, Lubbock
Trinity University, Waxahachie
University of Texas, Austin
West Texas State Teachers College, Canyon
Wiley College, Marshall

UTAH

Brigham Young University, Provo
University of Utah, Salt Lake City
Utah Agricultural College, Logan

VERMONT

Middlebury College, Middlebury
Norwich University, Northfield
University of Vermont, Burlington

VIRGINIA

Bridgewater College, Bridgewater
College of William and Mary in Virginia, Williamsburg
Emory and Henry College, Emory
Hampden-Sydney College, Hampden-Sydney
Hampton Institute, Hampton
Hollins College, Hollins
Lynchburg College, Lynchburg
Mary Baldwin College, Staunton
Randolph-Macon College for Men, Ashland
Randolph-Macon Woman's College, Lynchburg
Roanoke College, Salem
State Teachers College, East Radford
State Teachers College, Farmville
State Teachers College, Fredericksburg
State Teachers College, Harrisonburg
Sweet Briar College, Sweet Briar
University of Richmond, Richmond
University of Virginia, Charlottesville
Virginia Military Institute, Lexington
Virginia Agricultural College and Polytechnic Institute, Blacksburg
Virginia State College, Petersburg
Washington and Lee University, Lexington

WASHINGTON

College of Puget Sound, Tacoma
Gonzaga University, Spokane
State College of Washington, Pullman
University of Washington, Seattle
Whitman College, Walla Walla
Whitworth College, Spokane

WEST VIRGINIA

Bethany College, Bethany
Concord State Teachers College, Athens
Marshall College, Huntington
West Virginia State College, Institute
West Virginia University, Morgantown

WISCONSIN

Beloit College, Beloit
Carroll College, Waukesha
Lawrence College, Appleton
Marquette University, Milwaukee
Milwaukee-Downer College, Milwaukee
Mount Mary College, Milwaukee
Ripon College, Ripon
State Teachers College, Superior
Stout Institute, Menomonie
University of Wisconsin, Madison
Wisconsin State Teachers College, LaCrosse
Wisconsin State Teachers College, Milwaukee
Wisconsin State Teachers College, Oshkosh

WYOMING

University of Wyoming, Laramie

Teachers' Colleges

CALIFORNIA

California State Teachers College, San Diego
Fresno State Teachers College, Fresno

IDAHO

State Normal School, Albion
State Normal School, Lewiston

MONTANA

Eastern Montana Normal School, Billings
Montana State Normal School, Dillon

OREGON

Eastern Oregon State Normal School, La Grande
Marylhurst Normal School, Oswego
Mt. Angel Normal School, Mt. Angel
Southern Oregon Normal School, Ashland
State Normal School, Monmouth

WASHINGTON

Holy Names Normal School, Spokane
Seattle Pacific College, Seattle
State Normal School, Bellingham
State Normal School, Cheney
State Normal School, Ellensburg

Junior Colleges

ALABAMA

Marion Institute, Marion
St. Bernard College, St. Bernard

ARIZONA

Phoenix Junior College, Phoenix

ARKANSAS

Arkansas Agricultural and Mechanical College, Monticello
Arkansas Polytechnic Institute, Russellville
Central Junior College, Conway
Little Rock Junior College, Little Rock
State Agricultural and Mechanical College, Magnolia

CALIFORNIA

Southern California Junior College, Arlington

COLORADO

Colorado Women's College, Denver

CONNECTICUT

Junior College of Connecticut, Bridgeport

DISTRICT OF COLUMBIA

Columbia Junior College, Washington, D. C.
Junior College of Georgetown Visitation Convent, Washington, D. C.

FLORIDA

St. Petersburg Junior College, St. Petersburg

GEORGIA

Andrew College, Cuthbert
Junior College of Augusta, Augusta
Middle Georgia College, Cochran
Georgia Southwestern, Americus

IDAHO

University of Idaho, Southern Branch, Pocatello
Northwest Nazarene College, Nampa

ILLINOIS

Backburn College, Carlinville
Frances Shimer School, Mount Carroll
George Williams College, Chicago
Joliet Junior College, Joliet
La Salle-Peru-Oglesby Junior College, La Salle
Lincoln College, Lincoln
Lyons Township Junior College, La Grange
Monticello Seminary, Godfrey
Morton Junior College, Cicero
North Park College, Chicago
Springfield Junior College, Springfield
Thornton Junior College, Harvey
Y. M. C. A. School of Liberal Arts, Chicago

INDIANA

St. Joseph's College, Collegeville

IOWA

Graceland College, Lamoni
Mason City Junior College, Mason City
Mt. Mercy Junior College, Cedar Rapids
Ottumwa Heights College, Ottumwa

KENTUCKY

Bethel Woman's College, Hopkinsville
Cumberland College, Williamsburg
Mt. St. Joseph's College, St. Joseph
Nazareth Junior College, Nazareth
Pikeville College, Pikeville
Sacred Heart College, Louisville
Sue Bennett College, London

MASSACHUSETTS

Junior College of Bradford Academy, Bradford
Lasell Seminary, Auburndale

MICHIGAN

Bay City Junior College, Bay City
Emmanuel Missionary College, Berrien Springs
Flint Junior College, Flint
Grand Rapids Junior College, Grand Rapids
Highland Park Junior College, Highland Park
Jackson Junior College, Jackson
Muskegon Junior College, Muskegon
Port Huron Junior College, Port Huron

MINNESOTA

Duluth Junior College, Duluth
Eveleth Junior College, Eveleth
Hibbing Junior College, Hibbing
St. Mary's College, Winona
Virginia Junior College, Virginia

MISSISSIPPI

Gulf Park College, Gulfport
Harrison-Stone-Jackson Agricultural High School and Junior College, Perkinston
Hinds Junior College, Raymond
Pearl River College, Poplarville
Sunflower County Junior College, Moorhead
Whitworth College, Brookhaven

MISSOURI

Christian College, Columbia
Flat River Junior College, Flat River
Jefferson City Junior College, Jefferson
Junior College of Kansas City, Kansas City
Kemper Military School, Boonville
The Principia, St. Louis
Rockhurst College, Kansas City
St. Joseph Junior College, St. Joseph
Stephens College, Columbia

Teachers College of Kansas City, Kansas City
Wentworth Military Academy, Lexington
William Woods College, Fulton

MONTANA

Northern Montana College, Havre

NEBRASKA

Union College, College View

NEW HAMPSHIRE

Colby Junior College for Women, New London

NEW JERSEY

Centenary Collegiate Institute, Hackettstown

NEW YORK

Packer Collegiate Institute, Brooklyn
Sarah Lawrence College, Bronxville
Seth Low Junior College, Brooklyn

NORTH CAROLINA

Mars Hill College, Mars Hill
St. Mary's School, Raleigh

OKLAHOMA

Northeastern Oklahoma Junior College, Miami

OREGON

St. Helen's Hall Junior College, Portland

PENNSYLVANIA

Williamsport-Dickinson Seminary, Williamsport

TENNESSEE

Hiwassee College, Madisonville
Tennessee Wesleyan College, Athens
Ward Belmont College, Nashville

TEXAS

Amarillo College, Amarillo
Brownsville Junior College, Brownsville
Edinburg College, Edinburg
John Tarleton Agricultural College, Stephenville
Lamar College, Beaumont
Lon Morris College, Jacksonville
Mary Allen Seminary, Crockett
Texarkana Junior College, Texarkana
Tyler Junior College, Tyler

UTAH

Dixie Junior College, St. George
Snow College, Ephraim
St. Mary of the Wasatch Junior College, Salt Lake City
Weber College, Ogden

VIRGINIA

Averett College, Danville
Sullins College, Bristol
Virginia Intermont College, Bristol

WASHINGTON

Walla Walla College, College Place
St. Martin's College, Lacey

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WISCONSIN

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